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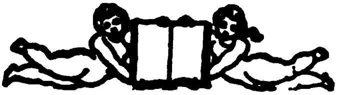

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Index to Volume XV

Activity of the School Child, Mental—John Gill 165
Adams, John—Attention and Interest 265
Adams, John—Class Management and the Teacher's Use of Language 328
Adams, John—Ideas and Their Relations 168
Adams, John—Illustrations 580
Adams, John—Questions and Answers 504
Adams, John—The Socratic Method of Teaching 408
Adams, John—The Study of Child Nature 24
Addis, Welford—The Social Unit in Our Public School Systems 349
Adolescence, Psychic Arrest in—G. Stanley Hall 164
Aim of Education, The Ultimate and the Proximate—W. N. Hailmann 163
American Idea, The 310
America's Faith in Education 781
Anderson, Francis—On Teaching to Think 478
Annuities for Teachers 157
Arnold, Matthew—Ill Use of the Brief Lesson Time 161
Art and Illustration as a Means of Education, Works of—Ernest Gardner 511
Art, Decadence of Greek 306
Art, Greek—First Period 57, 139, 213
Art in the Greek Colonies of Asia 300
Art, Greek—Second Period 296

Art, Roman 461, 616
Assisting Teachers—William H. Maxwell 255
Attention and Interest—John Adams 265

Barnett, P. A.—Cautions for Child Students 37
Batdorf, P.—Teacher and Parent—Their Reciprocal Duties 324
Books of My Childhood—Isabel C. Fortey 752
Bowen, H. Courthorpe—The Use of Fact and Fiction in the Early Education of the Young 93
Buckland, Anna—Uses of Educational Stories 105
Bureau of Education in the United States, The National—R. L. Morant 440

Calkins, J. B.—The Teacher Before His Class 251
Calkins, J. B.—Teaching Reading 420
Cautions by an Eighteenth Century Teacher 763
Chancellor, William E.—The School as a Social Institution 1
Charles, R. H.—Rewards and Punishments in School 425
Childhood, Books of My—Isabel C. Fortey 752
Childhood and Boyhood 182
Childish Studies 510
Child Nature, The Study of—John Adams 24
Child Students, Cautions for—P. A. Barnett 37
Child Students, Cautions to 498
Child Study in Maine, An Experiment in—W. W. Stetson 594
Child Study Plan, A—W. W. Stetson 272
Clark, M. G.—Moral and Religious Training at School 760
Clark, M. G.—School Discipline 386
Comenius and Thring—Arthur Gilman 493
Comenius, the Life and Educational Labors of—S. S. Laurie 48, 127
Common School Extension 777
Composition and Essays, English—J. H. Fowler 178
Constituents of All Education, Essential—Charles W. Eliot 397
Course of Study, The Newer Meaning of the—W. H. Elson 417
Currie, James—Cultivating Sympathetic Relations 164

Dalziel, John—Cruel Treatment of Deficient Pupils 495
Darlu, D.—Herbert Spencer 680

Deficient Pupils, Cruel Treatment of—John Dalziel 495
Definition of Education, On the—J. J. Findlay 360
Departmental Teaching—C. B. Gilbert 568
Discipline, School—E. H. Dreher 261
Discipline, School—M. G. Clark 386
Draper, Andrew S.—Rights of the People in School Affairs 727
Dreher, E. S.—School Discipline 261

Economy, Fundamental Considerations in School—J. M. Rice 238
Education of Humanity, Froebel's 38
Eliot, Charles W.—A Good Urban School Organization 557
Eliot, Charles W.—Essential Constituents of All Education 397
Elson, W. H.—Physical Training 508
Elson, W. H.—Co-operation of Social Forces 637
Elson, W. H.—The Newer Meaning of the Course of Study 417
Ethical Training—Walter L. Hervey 414
Examination for Indiana, State Board 69
Examination Questions, New York State Uniform
152, 222, 390, 472, 545, 629, 709
Examinations at Kansas City 149
Examinations, Massachusetts State 473
Experience Record, An 470
Eyes, Testing—William M. Huse 499
Eyesight in School 537
Eyesight in School, Study of 499

Fact and Fiction in the Early Education of the Young, The Use of—H. Courthorpe Bowen 93
Fatigue in School, Some Causes and Effects of—Maximilian P. E. Groszmann 113
Feeling as a Factor in School Training—J. L. Paton 715a
Ferrero, Guglielmo—How Children Are Made to Suffer by the Mistakes of Educators 31
Findlay, J. J.—On the Definition of Education 360
Fitch and Rooper 154
Fowler, J. H.—English Composition and Essays 178
Froebel Concerning "the School" 291
Froebel on "Home and School" 373

Gardner, Ernest—Works of Art and Illustrations as a Means of Education 511
Gilbert, C. B.—Departmental Teaching 568
Gilbert, C. B.—Gradation and Promotion of Pupils 718
Gilbert, C. B.—Social Functions of the Superintendent 398
Gilbert, C. B.—The Rating of Teachers 638
Gilbert, C. B.—The School Superintendent 84, 194
Gilbert, C. B.—The Superintendent and His Teachers 317
Gilbert, C. B.—The Supervisor and Teacher of "Special Subjects" 486
Gilman, Arthur—Comenius and Thring 493
Gill, John—Mental Activity of the School Child 165
Girl Study, Aids to—William McAndrew 589
Gradation and Proportion of Pupils—C. B. Gilbert 718
Greece, Life in Ancient—J. P. Mahaffy 450, 520, 605, 693
Greek Mythology and Religion 765
Grossmann, Maximilian P. E.—Some Causes and Effects of Fatigue in School 113
Grow, Who has Ceased to 715
Gymnastics, The Teaching of—Francis W. Parker 663
Hailmann, W. H.—The Ultimate and the Proximate Aim of Education 163
Hall, G. Stanley—Psychic Arrest in Adolescence 164

Hammond, William A.—Mental Strain 503
Haney, James P.—Manual Training *vs.* The Manual Arts 340
Hervey, Walter L.—Ethical Training 414
Hill, Frank Alpine 156
Humanism and Philanthropinism—Francis Wayland Parker 762
Huse, William H.—Testing Eyes 499
Huxley, Thomas—Scientific Education 575

Ideas and Their Relations—John Adams 168
Illustrations—John Adams 580
Influence in Education, Emerson's—Michael E. Sadler 284
Interesting in Teaching, How to Be 746

Jungle Law as an Educational Code—R. A. Pennethorne 258

Lang, Ossian H.—Social Problems and the New Community 81, 161
Laurie, S. S.—The Life and Educational Labors of Comenius 48, 127
Lesson Time, Ill Use of the Brief 161
Literature. On the Study of—John Morley 175
Locke, John 188

Mahaffy, J. P.—Life in Ancient Greece 450, 520, 605, 693
Management and the Teacher's Use of Language, Class—John Adams 328
Mann, Selections from the Writings of Horace 377, 431
Manual Training *vs.* the Manual Arts—James P. Haney 340
Map Drawing, Geography Thru—T. W. Phillips 20
Maps in Teaching Geography, Use of—Harry Govier Seeley 14
Maxwell, William H.—Assisting Teachers 255
McAndrew, William—Aids to Girl Study 589
McMurry, Frank M.—Advisable Omissions from the Elementary Curriculum and the Basis from Them 668
Medd, J. C.—How Best to Study Nature 516
Method in Teaching, True Test of a Good—Levi Seeley 6
Mistakes in Education, How Children are Made to Suffer by the—Guglielmo Ferrero 31
Moral and Religious Training at School—M. G. Clark 760
Morant, R. L.—The National Bureau of Education in the United States 440
Morley, John—On the Study of Literature 175
Myopia, Causes of 501

Nature, How Best to Study—J. C. Medd 516
Nature Study—Some Tentative Generalizations and Guiding Propositions, Education Thru 418
Nervous Disorders in Children and Their Educational Treatment—George H. Savage 117

Omissions from the Elementary Curriculum and the Basis from Them Advisable—Frank M. McMurry 668
Organization, A Good Urban School—Charles W. Eliot 557

Parker, Francis Wayland—Humanism and Philanthropinism 762
Parker, Francis Wayland—Responsibility in School Supervision 202
Parker, Francis W.—The Teaching of Gymnastics 663
Paton, J. L.—On Feeling as a Factor in Education 715a
Pennethorne, R. A.—Jungle Law as an Educational Code 258
People in School Affairs, Rights of the—Andrew S. Draper 727
Pestalozzi, Sir Joshua Fitch on 282
Phillips, J. H.—Present Educational Tendencies 449
Phillips, T. W.—Geography thru Map Drawing 20
Physical Training—W. H. Elson 508
Physiology and Hygiene We May Expect of the Public Schools, What Training in—William T. Sedgwick 333
Punishment, Corporal 650

Questions and Answers—John Adams 504
Questions, Review 246, 543, 706
Quick, John—John Locke 188

Rating of Teachers, Class Inspection and 648
Rating of Teachers, The—C. B. Gilbert 638
Reading, Principles of 707
Reading, Teaching—J. B. Calkin 420
Religious and Moral Training in the Schools—Charles H. Thurber 653
Research, Society of Educational 552
Rewards and Punishments in School—R. L. Charles 425
Rice, J. M.—Fundamental Consideration in School Economy 237
Royalties of Teachers, Text-Book 552

Sadler, Michael E.—Emerson's Influence in Education 284
Savage, George H.—Nervous Disorders in Children and Their Educational Treatment 117
Scientific Education—Thomas Huxley 575
Sedgwick, William T.—What Training in Physiology We May Expect of Public Schools 333
Seeley, Harry Govier—Use of Maps in Teaching Geography 14
Self-Improvement of Teachers 186

Social Forces, Co-operation of—W. H. Elson 637
Social Institution, The School as a—William E. Chancellor 1
Social Problems and the New School Community—Ossian H. Lang 81, 161
Social Unit in Our Public School Systems, The—Wellford Addis 349
Socratic Method of Teaching, The—John Adams 408
Spencer, An Estimate of Herbert 685
Spencer, Herbert—A. Darlu 680
Spencer's Essays on Education, Extracts from 585, 688
Stetson, W. W.—A Child Study Plan 272
Stetson, W. W.—An Experiment in Child Study in the State of Maine 594
Stories, Educational Uses of—Anna Buckland 105
Strain, Mental—William A. Hammond 503
Superintendent and His Teachers, The—C. B. Gilbert 317
Superintendent, Social Functions of the—C. B. Gilbert 398
Superintendent, The School—C. B. Gilbert 84, 194
Supervision, Harsh 715
Supervision, Responsibility in School—Francis Wayland Parker 202
Supervisor and Teacher of "Special Subjects," The—C. B. Gilbert 486
Sutton, W. S.—The Training of Teachers for Elementary Schools 405
Sympathetic Relations, Cultivating—James Currie 164

Teacher and Parent—Their Reciprocal Duties—J. P. Batdorf 324
Teacher Before His Class, The—J. B. Calkin 251
Tendencies, Present Educational—J. H. Phillips 449
Think, On Teaching to—Francis Andrews 477
Thurber, Charles H.—Religious and Moral Education in the Schools 653
Training of Teachers for Elementary Schools, The—W. S. Sutton 405

Work and Play, Distinction Between—H. L. Withers 745
Withers, H. L.—Distinction Between Work and Play 745

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Contents for September, 1903

The School as a Social Institution. William E. Chancellor - - - - - - - 1

METHODOLOGY OF EDUCATION

True Tests of a Good Method in Teaching. Levi Seeley - - - - - - - - 6
Use of Maps in Teaching Geography. H. G. Seeley - - - - - - - - 14
Geography Thru Map Drawing. T. W. Phillips 20

CHILD STUDY AND CHILD TRAINING

The Study of Child Nature. John Adams - 24
How Children Are Made to Suffer by the Mistakes of Educators. Guglielmo Ferrero - 31
Cautions for Child Students. P. A. Barnett - 37

CLASSICS AND HISTORY OF EDUCATION

Froebel's "Education of Humanity" - - 38
The Life and Educational Labors of Comenius. S. S. Laurie - - - - - - 48

HISTORY OF GREEK ART

Greek Art—First Period. Francis C. Turner - 57
TEACHERS' EXAMINATIONS 69
EDITORIAL NOTES 75

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Educational Foundations

OSSIAN H. LANG, Editor.

Vol. XV., SEPTEMBER, 1903. No. 1.

The School as a Social Institution.

CHURCH, state, school, family, occupation! What a world springs into being at the *fiat* of each word! What panoramas of pictured pageantry move in the imagination! How rich in inner meaning is each word, for are not religion, government, culture, home and work nearly the whole of our human life? To be civilized, to be humanized, to be elevated to the estate of sons of God, to enter as heirs into the heritage of wisdom, is to find and to understand and to appreciate these universal social relationships.

At the center, in the heart, of the school are the teacher and the learner, the one who knows and the one who wishes to know. Let us not fall into the modern error, let us not be deceived by the modern heresy. School is too vast, too strong a thing to be embraced in meaning by a sketch of a young woman teaching a child. In that relationship may well be a true school, but we moderns are sorely wrong in dreaming that this is the school universal. The ancients were wiser, who saw the philosopher walking with his disciples in the groves of Academe, and knew that those men were at school. Wherever men, young or old, resort day by day that they may get understanding from wiser men, there is the universal school. In forgetting this truth in the modern age we have cheapened civilization. We have mistaken the youth's entrance upon his occupation for matriculation in the university, and manhood suffrage for the degree of master of arts.

But the school as a social institution is more than the visible presence of teacher and disciple, more even than their spiritual relationship. The school is all of these societies of the learned and the ignorant in the entire community. It is the bringing together in lecture courses, in singing societies, in gymnasiums and colleges, in high schools and academies, in grammar schools and kindergartens, of the superior and the inferior that the strong may help the weak. Wherever the line of the trained meets the line of the untrained for the avowed purposes of training, there is the school. Various are the forms of the universal school; single is its nature.

Yet again the schools of an entire community do not compass

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the meaning of the school as a social institution. At the center is the single school, it may be of one philosopher and one acolyte, and it may be of one teacher and forty learners. Thruout the circle are the various schools, knit to each other by the essential unity of the idea that brings schools into being: which is the necessity of wisdom to teach and of ignorance to learn. Upon the circumference of the school universal, setting it off from state, church, family, and occupation, is its mark, which gives par value to every genuine teacher whether kindergarten or university president, village instructor or city superintendent. This mark is like an electric lamp upon the forehead. It is the light of the true school universal; it is the inner life shining forth in the night. We may call it the love of learning. "The truth shall make you free." The scholar, whether teaching or taught, desires knowledge and to extend knowledge. This is more than investigation and research, tho it includes the use of the results of inquiry. It is the enrichment of human life, a thing so different from the acquiring of riches that the true scholar flees from the hireling teacher and shrinks from the unwilling learner lest his own soul be contaminated; shrinks and flees only to return with keener zeal to win, if that may be, the hireling and the unwilling to his vision and his delight. A holy zeal, a sacred joy, a righteous love, this is the mark of the scholar with his good tidings of the greater soul and the larger life thru education. For every man is like a gold deposit, be the ore rich or poor, near the surface or deep underground, awaiting discovery and the magic touch of art.

It is no marvel that all of this has not been well understood for centuries among men. Especially is it no marvel that we have not understood in America the true and complete nature of education, that it is a life-process, and of the school, that it is a universal institution for young and old alike. Human life as such did not become precious in the eyes of most men until a bare half-century ago. Moreover, it was only then that the great doctrine of democracy fairly won universal acceptance even in America. Until every human life became dear to humanity, the school universal could not exist either for children or for adults. We and our teachers before us have won the battle for the children. Our foremost duty is to win it now for men and women. As the enslaved in all the centuries, kidnapped negroes, captured barbarians alike, oppressed by legal sanctions backed by the police powers of government, have meekly submitted to their masters, seldom effectively desiring freedom, so the ignorant desire knowledge but weakly. The free gave freedom to the slave; the learned must give knowledge to the ignorant, it may be often thrusting it upon them, always trying to win them to wisdom by its own grace. Unfortunately for the cause of universal enlightenment, democracy has seemed in a degree antagonistic to the schools, for it affirms equality, fraternity, liberty. Is not the teacher the superior of the taught; how can they be equal? Is not the teacher the master of the taught; how can they be brothers? Is not the learner subject to the instructor, for one cannot learn who disputes authority; how, then, can the learner be free? This is the current misunderstanding of democracy. It explains the reluctance of adult American citizens to enroll themselves in university extension courses and to be known as among the taught.

In truth democracy as a universal protest against tyranny is a protest against the tyranny of scholarship and of scholars. In truth scholarship itself has undergone a transformation caused by the spirit of democracy. In truth neither scholarship nor democracy is quite what each is supposed popularly to be. Modern scholarship is not dogmatic; has no spirit of authority; is humble, eager for truth, whole-hearted, scientific. Modern democracy pants too fiercely for progress to be willing to stop upon its journey and to quarrel about equality, fraternity, and freedom. Democracy is faith in opportunity and in preparation for opportunity for every individual and for the state. This faith means the greatest possible education for every one; for his own sake; for the nation's sake. It means also that the democratic nation must set forth upon its missions, to enrich its own poor, and to enlighten the dark places of the world. Once a Roman peace reigned from the Euphrates to the Thames; there will yet reign from Washington upon the Potomac an American peace round all the earth. That is our opportunity. For it the school universal is making us ready.

For untold millenniums every civilized man has lived in relationship with the great social institutions: church, state, school, family, occupation. Every age in all these millenniums has been characterized by the dominance of one or another institution over society. Yet thru all the ages each institution has grown stronger in its own structure, because it has become more and more true to human nature. In America to-day occupation as crystallized in great business enterprises is amazingly strong, indeed, dominates society. Family and church are visibly disintegrating before our eyes. The state is struggling with occupation for supremacy. The issue is joined: Shall materialism, as incarnated in millionairism, control society? Shall business interests continue to dictate in the affairs of government?

Singular as may seem, to politicians, to business men, to teachers, the issue lies with the school. A very large proportion of the annual surplus of the wealth earned by our people in these times is being converted into intelligence and character. The school is accumulating powers and duties hitherto resident in church and family. The democratic state sees in the school the champion of its liberty. Here and there a protagonist of business, a challenger proclaiming occupation as the true mission of man, a philosopher declaring that man is born to work and finds his glory in work, says boldly that the school is no place for boys over fourteen and denounces the higher forms of school as pernicious because they unfit for business, but in general the men who are maintaining occupation as a great social institution see in the school no real danger. Their position is correct. The democratic state will prevail over business because the school will thrive yet more and more. But the blessedness of the school to humanity is that forever and everywhere it builds up the good and nowhere tears it down. The universal school will make boys into business men and men into yet better business men; but even more will it make boys into citizens and men into yet better citizens. In the age just ahead of us the school reaching effectively children as well as adults and adults as well as children will do well much of the work hitherto done poorly by family and church, and will dominate both state and occupation because legitimately they have no near concern for children or with them.

Neither church nor family will die out. Far otherwise. The educated man and woman make the best possible disciples and apostles of religion and the only successful parents in a civilization that requires an enlightened mind and a vigorous soul as well as the mere physical body for every citizen. But man lives here between the eternities for more ends than church and family can offer. To live here unselfishly, to live hereafter worthily, to care for one's own by ancestry or descent, these are very noble ends. They are indeed nobler ends than occupation can offer. But to live here that the modern state, which is humanity consciously organized for its own good, may prosper is a greater end. This end is offered to us by the American democratic state. But greatest of all ends is that of the school. We all understand this nowadays. The end of the school is to help each individual to make the most of himself and to enable the state to make the most of its individual citizens.

Familiar as this idea is, it is none the less revolutionary. The wheel of life has not yet made its full turn. So understood the school, whether for babies or for bearded men, is necessarily a free public school. Unless it be true that few persons over fourteen can acquire new ideas and develop new purposes, the universal school must necessarily be so broad and rich that men and women as well as children will delight in its manifold, multiform opportunities. Once organized as it ought to be in village, town and city, state and nation the school will solve the problems of crime, of wise employment of leisure, of the beautifying of homes and stores and mills, of sanitation, of competent service in public office, and of the manufacture and sale of intolerable poisons, and other problems similarly present because ignorance and poverty abound. Is this a heavy contract? True. But the school already is a tremendous institution. It has, moreover, the excellence of its marvelous quality: growth. It is going on from strength to strength. The thing that never was shall yet be. So prodigious has become the energy of the modern school that in it no one man however great counts for much. But he who for the school achieves something has the familiar satisfaction of feeling kinship with the multitude of those who will and can and do. Upon every teacher in every community the duty lies. It is something, but not much, to approve those who do achieve; it is something to help clear out from the school those who either will not or cannot achieve; but it is a great deal to be of those who by the new enterprises of the school—manual training, science, evening lectures, public meetings, kindergartens, neighborhood clubs, university extension, reform schools—broaden the range of the school's activities and social service.

Such in brief is the philosophy of the movement by which formal education in America has become the most significant characteristic of our times and the most potent influence in our national life.

WILLIAM E. CHANCELLOR.

Bloomfield, N. J.

QUESTIONS.

1. What constitutes a school? (Illustrate your definition.)

2. What place does the school occupy in a democracy? (Define also your conception of democracy.)

3. What is meant by the free common school and what is the chief purpose of this institution?

4. What demands do the modern American common schools justly make *a.* upon the communities supporting them? *b.* upon the teachers (as regards qualifications and duties?)

METHODOLOGY OF EDUCATION.

True Tests of a Good Method in Teaching.

WHAT DO WE MEAN BY METHOD?

BEFORE attempting to discuss the subject it is well that a clear conception of what is meant by method should be obtained. With a definition before us we may avoid misunderstanding and hold ourselves to a definite text. I conceive method to be the natural, orderly, systematic, and logical manner of presenting subject matter to the mind. Or as Kant tersely puts it—"Method is procedure according to principles."

IMPORTANCE OF A GOOD METHOD.

A skilled mechanic who undertakes a piece of work not only selects the tools that are best suited, but he also begins at the right point, carries forward the work step by step, and completes it in the shortest time and in a most thoro manner. Otherwise he is not a good mechanic. A bungler does not know the proper tools to use and is unable to perform the task with ease and efficiency. If this is true in mechanical matters it is doubly true in intellectual affairs. The teacher must be familiar with the implements to be employed in the presentation of a subject, and also with the order and plan of its development. Skill in the use of material, discernment of the essential and non-essential, logical sequence, suitability of matter to the age and advancement of the pupils, adaptability to the needs and circumstances of peculiar cases, use of language comprehensible to the pupils, are vital characteristics of a good method.

It must not be urged that the subject must not be presented in a logical order to pupils who have not yet reached the logical epoch. Even children who are still in the period of sense-perception must be taught by a logical method. Altho the purpose is not especially to train their reasoning powers, little success may be expected if the lesson is not presented in a logical manner. Therefore a thoro acquaintance with the method of performing a task, whether it be mechanical or intellectual, not only adds to the perfection of the product, but also lessens the difficulties connected with the performance of the task. A good method thus becomes of great importance to the success of the teacher.

THE FORMAL STEPS.

The Herbartian school of educators lays great emphasis upon the "Formal Steps" of the recitation. A general presentation of this method may be found helpful in the treatment of this subject. Such presentation will necessarily be brief owing to the limitations of this article. Besides the many discussions of the topic in previous volumes of this magazine would make an extended treatment unnecessary at this time.

It must be remarked at the outset that the intelligent teacher will adapt this or any other method to his own peculiar needs. Originality and spontaneity in the teacher are of far greater moment than close adherence to any formal procedure, even tho the latter may be more finished as a theory. Every teacher possesses an individuality and this should be given scope in the method employed. There are, however, certain principles involved that every teacher should be able to apply. They are presented in the five formal steps of the recitation as follows:

a. *Preparation.*

The first thing that the teacher should consider in his method of instructing is that of preparing the class for the material he wishes to present. If a farmer were to go out into a field and scatter his seeds broadcast upon the hard ground, even in abundance, he would not get a crop, tho a few kernels would doubtless come to fruitage. He must first prepare the soil by plowing, fertilizing, harrowing, and then he may sow the seed and leave it to sunshine and rain in due time to bring forth an abundant harvest. So the teacher must not scatter his precious seeds of knowledge without first preparing his pupils to receive them, else much of his labor will be in vain. This preparation is brought about by calling forth the knowledge the pupils already possess and awakening an interest in and desire for the new that is to be presented.

b. *Presentation.*

Now when the soil has been prepared the seed may be sown. The method of presenting the new material will depend upon the advancement of the children, upon the subject, and upon the individuality of the teacher. The method may be analytic or synthetic, inductive or deductive, or a combination of these to suit the circumstances. I shall speak of the different kinds of method further on in this article, and therefore will simply add that the presentation must be clear and explicit, logical in arrangement, forcible as to essentials, interesting as to matter, and it must be repeated a sufficient number of times to become fixed in the minds of the pupils.

c. *Association.*

The teacher must bring the new into such relation with the old that the two become thoroly assimilated. He must be sure that the new knowledge is not merely a stranger knocking at the door for admittance, but is brought over the threshold of the child's consciousness and made one of the family of notions which are at home in the child's mind.

d. *Recapitulation.*

No lesson has been well learned until the pupil can restate the whole theme in a summary, a rule, or a recapitulation. The ability to recall the outline of a lecture, sermon, or recitation indicates the degree of clearness with which it has been grasped. Children should be trained to this power by being required to state the principal points that have been brought out in the lesson. Here is the place for the rule which should be taught at this time and not at the outset. It summarizes the result of the lessons learned and reduces the child's knowledge to a series of norms that are fixed in his mind and can be recalled whenever authoritative standards are needed. To omit recapitulation is to fail to gather the fruits of the lessons and fix them in the mind for future use. He is safer in his moral life who is governed by fixed moral precepts; he is surer of his use of language who knows the rules of grammar; and he is better equipped in mathematics who, understanding the operations, also knows the rules governing those operations. Therefore emphasis must be laid upon the power of recapitulation when a theme has been worked out.

e. *Application.*

Finally, the child must be able to apply his work to the duties of every-day life. The life of the school should be brought into close touch with the verities of life outside of the school. Themes treated at school, such as geography, history, arithmetic, language, should be shown to be living realities. Thus the cultural and the practical may be brought into complete harmony and the school will not fail in its mission towards either.

The elaborate plan thus outlined in the formal steps can seldom be carried out in the period known as the recitation, but it suggests the method, the logical order of procedure which must be followed day after day until the subject is mastered in detail and in completeness. With these steps in mind the teacher will possess a method which cannot fail to be a *guide* as well as a help in teaching.

THE ART OF QUESTIONING.

Question and answer will occupy a large part of the time and constitute the principal method in teaching young children. They lose interest unless they can take part. The lecture method may be satisfactory with adult students but not with children. Every teacher should study the art of questioning. The following suggestions may aid in this study:

a. The question should be *simple* and *clear*. There should be no doubt in the minds of the pupils as to what the question means. All of the attention of the child should be devoted to an intelligent answer to the question and not to deciphering what the question means.

b. The questions should be in *logical order*. One question should be a sequence of the preceding and regardless of the age or development of the children. Logical order in the questions will prevent confusion in the child's idea of the lesson.

c. The questions should be given *spontaneously*. Not those of the text-book, but the questions which spring from the teacher's full knowledge of the theme and his interest in it. There may be no objection to a series of questions at the bottom of pages of text-books to be employed in reviews, in directing the thought to the many phases of the subject, or to lead to further investigations. But the teacher should stand before her class so full of the subject that the flow of questions will be rapid, spontaneous, direct. The text-book should be superfluous in the conduct of the class exercise so far as questioning is concerned.

d. The question should *stimulate thought*. Direct questions should generally be avoided, as a "yes" or a "no" answer does not prove thought. Monosyllabic answers are open to the same objection. Answers in full sentences should be required except in rapid review. It must not be forgotten that the purpose of the recitation is to stimulate thought. Any method that fails to do this will be found wanting.

e. The question should have a *purpose*. "What was your aim in those questions?" was asked of a bright young primary teacher at the close of an interesting exercise. "Why, really, I don't know," was her reply. With a definite aim in view, the teacher should so direct his questions as to realize that aim. With no aim in view, a lesson may be bright and entertaining, but would necessarily be condemned as a method.

DIFFERENT METHODS.

The resourceful and skilful teacher will not be a slave to any single method. If I wish to make a trip to Chicago it is far better that I have many routes from which to choose than to be limited to but one route. I not only have the advantage of cheaper rates as the result of competition between lines, but am also enabled to select the train that more nearly suits my wish as to time of leaving home or as to time of arriving at my destination. I may also secure the comforts I desire en route and select the territory thru which I wish to pass. Many advantages are offered to me by the choice of several routes. Just so the teacher will find that acquaintance with a number of methods of instruction adds remarkably to his power of instructing.

While undoubtedly the inductive method chiefly should be employed in teaching young children, and the deductive method with maturer minds, I agree with Dr. Charles A. McMurry when he says, " The inductive process is the fundamental one, and deduction comes in at every step to brace it up. This is only another illustration that mental processes are intimately interwoven, and, except in thought, not to be separated." It will be found that even with young children the employment of the deductive method is often fertile with excellent results. The presentation of the same theme from different standpoints and by different methods serves to bring to light all sides of the theme and fix it more thoroly in the child's mind. Even when pupils think they understand a subject and are ready to leave it for something new, let it be presented by another method and if there are any weaknesses they will appear. Hence, if thoroness is to be attained the teacher must not be content with the employment of a single method however good that may be.

Dr. Smith, in his " Systematic Methodology," points out four methods of teaching and makes a very clear distinction between them. I shall give his view of these four methods.

1. " The *Analytical Method* of teaching is the method in which we set out with individuals or wholes and proceed to a consideration of the parts of which they are composed. Starting with a flower and proceeding to the study of its parts, calyx, corolla, stamens, pistil, etc., is an excellent example of analytic teaching."

2. " The *Synthetic Method* of teaching is the method in which we set out with the dissociated parts of things and proceed to bring these into proper relation to each other, so as to construct as a final product the individual. Having a pile of dissociated bones, studying the function of each, and bringing them into such relation

with one another as to produce finally the human skeleton, is an example of a synthetic method of teaching."

"It should be noted that, in the analytic method, the parts are given in their relation to each other, and, hence, the relations are closely present to be discovered; the functions of the several parts as they affect one another are thus manifest. In the synthetic method the parts are given out of their proper relation to each other, and it is assumed that they can be studied in such isolation, and that their several relations can be discovered in the process of bringing them together to construct the unit, or individual thing. It should also be noted that *these two methods have to do only with the mental movement between single things and their parts;* the idea of classification does not enter into either of them."

3. "The *Inductive Method* of teaching is the method in which we set out with individual things, and by a comparative study of several individuals—noting likenesses and differences—develop general notions or generalizations: or, we begin with generalizations of a given order and by their comparative study we arrive at still wider generalizations. . . . Generalizing definitions, rules, laws, and principles, from a comparative study of facts, is inductive. The very essence of induction is *comparison of members of a class* with a view to discovering similar elements."

4. "The *Deductive Method* of teaching is the method in which we set out with generalizations (definitions, rules, laws, or principles), and proceed to their application in individual cases. As examples of the deductive method we may mention: committing rules in arithmetic and then applying them to the solution of problems; studying the definitions of geography from a book and then proceeding to find them illustrated in the land and water forms about the school."

"A careful consideration of the above definitions and examples cited will enable the learner to understand that *the terms, induction and deduction, apply only to those mental movements which involve a passage from generalizations,* never to the mental movements between individual things and their several parts."*

I have quoted thus fully from Dr. Smith because it seems to me that he shows the distinctions between different methods with remarkable clearness and force. With the distinctions clearly in mind the teacher will be able to make use of a method or a modification of methods, which will enable him to present the material so as best to reach different types of mind and to suit different stages of advancement.

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* For complete treatment of this subject, see Smith's Systematic Methodology. P. III.

A SCIENTIFICALLY CORRECT METHOD MAY PROVE A FAILURE.

Something besides method is necessary to good teaching. The danger of following the "Formal Steps" too closely is that the teacher may be absorbed in making the recitation a finished product, forgetting that he is dealing with living beings of a great variety of intellectual peculiarities, each possessing his own characteristics, and having individual traits that must be considered. The child is something more than clay in the potter's hands to be fashioned after a fixed pattern; he is a personality, an individual who must be studied. Hence the need of wisdom and adaptability on the part of the teacher in the employment of method. The "Formal Steps" may be employed, as I have shown, but they must not be too *formal* so as to destroy all the life and force of the method. In a word, the teacher forgets himself and his method even, in a large measure, and thinks only of his pupils and the bringing of the truth home to them. As Rosenkranz puts it, he "cancels the inequality" that exists between him and his pupils. There is a good deal of truth in the words of an old superintendent when he said in speaking of method, "I do not care very much which way my teachers take to get around the block; but I want them to get around it." I do not mean by this that method is unimportant, I believe a knowledge of method to be of the highest importance, as already shown, but the main thing is to teach the lesson, and the teacher's personality is of great account in this matter. Therefore each teacher should be given free hand in the employment of method, after a sound basis of knowledge of method has been secured by him.

SOME TRUE TESTS OF A GOOD METHOD.

Now what are the tests by which the observer as well as the instructor himself may measure the efficiency of a method? Let me indicate a few:

a. *The interest of the pupils.* Without interest there can be no attention, and without attention there can be no instruction. A method that fails to awaken and hold the interest of any class must be found wanting so far as this particular recitation is concerned. When interest has not been aroused there must be a change in the method if not in the subject itself—it is useless to proceed.

b. *Instruction, not mere entertainment.* Of course, learning is to be made pleasurable. It is perfectly natural for children to learn, and therefore the method employed should bring joy to them. But there must be something more than entertainment in the recitation, the child must learn something. I have heard lecturers at teachers' institutes who kept their audience in a roar of laughter from beginning to end. And yet, when the teachers have looked back over the experience of the hour and sought for something that was of pedagogical value, they have found nothing. I once saw a pupil-teacher in a model school give a lesson in number. She was to teach the number six. At great pains she had constructed the model of a Swiss cottage in pasteboard which she brought before her six-year-old boys and girls, to their delight and wonderment. They counted the six windows, the doors, the gables, and were greatly entertained. They were lost in admiration of the beautiful structure which was really a work of art. But I doubt very much if they learned much about the number six. This perhaps was a device rather than a method, but it illustrates the idea of entertaining as a means of instructing, and shows that this must not be the main purpose of the recitation.

c. *The arrangement of the work to be logical.* Whatever the age of the pupils one point of the lesson must lead to the next as a natural sequence. There must be a consistent plan which the teacher should follow from the beginning to the end of the lesson. It must be a process of development in which the teacher starts out with an aim and never loses sight of that aim nor ceases to pursue it until it is reached.

d. *The lesson must be fixed in the pupils' minds.* It is better to gain complete mastery over one truth or thought than to catch glimpses of many and fix none. The story must be told and retold, the lesson must be repeated, the idea presented in many ways. Here is seen the necessity and value of drill. Very often teachers fail to continue the study of a subject until the pupils have conquered it. The method which falls short of producing thoroness in whatever is undertaken, must be condemned.

e. *Clearness must be sought.* Not only must the material be presented in a clear manner, but the pupils must gain a clear view of the subject. The teacher whose knowledge of a subject is misty will not be able to give his pupils a good conception of it. The best test of clearness is the ability of the pupil to recapitulate the lesson or the theme after it has been taught. Let him state in his own language what he has learned in the form of an outline, topical statement, or rule, and the thoroness of his understanding of it will appear.

These are tests of a true method of teaching by which every teacher can measure his own work, and by which a critic may judge work observed. If the interest of the pupils is held, if there is genuine instruction, not entertainment merely, presented in a logical manner, if the truths are fixed in a clear manner in the minds of the pupils, I think the method, whatever it may be called, is good. LEVI SEELEY.

Trenton, N. J.

Use of Maps in Teaching Geography.

NOTHING demonstrates the dependence of human affairs upon law more certainly than the facts of historical geography when they are considered in unbroken sequence. And it is quite possible to teach this subject with the aid of maps, so that the best and most complete knowledge shall be available for the student. The teacher must fail, however, who attempts to cover the entire field. School-life is too short for any pupil to work thoroly thru so vast a subject. Historical geography can only be profitably considered in direct connection with history. Difficulties vanish when the field of work is restricted and the nations studied are selected as types of races or of geographical changes which have gone on in other countries. Italy, in the records of diverse races out of which its population has become welded, with its Normans in the south, Teutonic Lombards in the north, Burgundians in the west, and Slavs in the east, offers evidence of the meaning of a political map which is not inferior in interest to Germany or Russia.

This method of teaching geography, by types, had to be introduced long since in other departments of knowledge. The botanical student no longer studies the history of the different palms or coniferous trees, but is content at the outset to know the characteristics of a conifer, or palm, or grass, and its differences from other types, because he needs a solid foundation upon which his future attainments may be built, and, also, because his seed-time of student life is too short to permit of any part of it being wasted in acquiring generalities which will not form a part of the ultimate fabric which education is to build. It is not too much to say that the whole of the natural history sciences owe their modern development and importance in education to the loyalty of teachers in accepting these inevitable limitations to their work. So that, instead of training a promising youth here and there with a view to his possibly becoming a naturalist, they have trained multitudes of students into varied powers of seeing and thinking about the facts of life which are at hand around us. The kind of result is to be desired, not only in relation to historical geography, but for every branch of the subject.

In the classification of knowledge it is possible that these two subjects (historical and commercial geography) may be some day combined, under anthropology, into a logical history of mankind, in which the national and international relations of people may be considered in their cause and effects, and be recognized as based upon that scientific physical geography which offers its results at the hands of the map-maker, and is probably the largest storehouse of fact based upon observation which any science contains. This is the end towards which the historical and economic branches of geography tend to converge.

The ultimate record of all geographical work is a map. It is a picture of the earth's surface drawn direct from nature, with varying degrees of precision and on varying scales. It is designed to be a substitute for direct observation of nature. And the first necessity for every learner and teacher is to realize that the lines upon a map which represent the physical features of the earth are put down because they have been actually observed and drawn to scale. Probably no one realizes what a coast line means until he walks with compass and note book in hand round some part of the coast, and sketches its contours from nature; and then compares, day by day, the results of his rough work with the accurate results recorded on the map which he carries in his pocket, which also gives names of inlets and headlands which are examined. The hills of a country are not very intelligible without being examined in the same way, for I am not acquainted with any way in which an attempt is made to give an adequate idea of their distribution.

A map presents to the eye things to be seen, and it is a chart exhibiting what may become fields of personal exploration. It is desirable that a little work of this kind should be accomplished by every teacher. I do not mean that he should merely be able to give an account of his holiday travel, in seeing a bit of the Severn or the Rhine, a glacier in the Alps or a loch in Scotland, but that he should deliberately qualify for teaching by practical observation in the field, which is as necessary for the understanding of a geographical fact as is experiment for the understanding of the nature of a chemical compound. It is certain that whatever impressions we form of distant places, perhaps never to be seen, will take their tone from our knowledge of phenomena which may be classed as belonging to the same general kind or type which is near at hand. On this account we do well to recognize that the observable facts of nature admit of being classed, in so far as the physical features of the earth are concerned, into such groups as plains, mountains, hills, valleys, rivers and lakes, and the coast line.

I designedly put the plains and mountains first, because they are the most widespread of geographical elements in a country, the most ancient parts of the earth's surface, and the elements which determine the existence of the hills and coast line.

All these facts are very fully recorded upon maps, and, if the maps are good enough, there is no reason why a pupil should not acquire a very competent knowledge of geography from study of such pictures of the earth. He cannot possibly acquire such detailed knowledge of the whole of our country, for the labor is too great. Nor is it desirable to master the geography of any one of the political sub-divisions of the various states, such as counties or school-districts; but it is quite possible to learn a good deal about the hills and valleys of a single natural division. The coast line emphasizes what the plains and hills have made clear— that, altho the wearing power of water is comparatively uniform, the varying durability of the rock is the cause which determines the details in form of the shore.

This kind of knowledge cannot be gained from books completely because the durabilty of a rock often depends upon the nature of the cement which binds its particles together. And this cement may be absent or changed in a distance of a few miles; so that the rock which in one place forms a hill or headland, in another place may form a bay or valley. Still it needs very little knowledge to be aware that the man who can read the main teachings of a geological map has mastered the main outlines of a country's physical geography.

I have never doubted that the reason why so many of the great geographers in past times have been geologists has been that the structure of the earth shows itself upon the surface, demonstrated in hill ranges, valleys, or mountains, intensified in clearness, so that the geographical features are manifest expressions of geological facts. The geologist in making his map has not only to observe the general features of the surface, but to walk over every portion of it, so as to be certain that there is no geographical fact whose geological cause is not clearly perceived.

I do not suggest that the student should delay learning geography till he has learned geology, but only that he should base his knowledge of the geographical map upon a knowledge of the geological map. This is a very different thing. In the kindred subject, physiography, it is not necessary to delay till a mastery has been attained of astronomy, physics, chemistry, geology, and biology, all of which contribute in some degree to an intelligent grasp of the processes of Nature's work now going on upon the earth's surface. The amount of geology which is necessary for a comprehension and reading of the geological map is no more than is required in physiography, tho the kind of knowledge is dissimilar.

The advantage of requiring this geological basis for geography is that it converts the otherwise unintelligible facts which the geographer observes into logically dependent parts of natural processes. It changes what was a mere effort of memory into a reasoning process which affords excellent mental discipline. This can be seen by superimposing one map upon the other; or, better still, by comparing them side by side, when they will be found mutually helpful. The geological map furnishes the causes, and the geographical map supplies the details of elevation and configuration of the ground, which have no obvious relation to the distribution of the different kinds of rocks.

Many years since, I conceived the possibility of combining this fund of geographical knowledge and exploration which the new ordnance survey affords with that which may be obtained from a geological map; and, to bring about an appreciation of the possibility of combining them so that geography could rest upon geology, I have conducted the weekly excursions of the Field Class to accessible places in the London district where the relations of geography to geology could be practically seen. My method has been, during the past eleven years, to prepare as far as possible a geological map and a geographical map, so that both should be in the hands of each member of the class. The map is always limited to the immediate district which is seen, and a mile or two to the north and south, or east and west, as the case may be. These excursions have been planned to illustrate the nature and structure of river valleys and river gorges, escarpment valleys, escarpment ranges of hills, isolated hills, and the plains out of which these features have been carved by denudation. This kind of practical knowledge may, I believe, be imparted in some degree by a large number of teachers who are engaged in secondary education; and I believe that the result would justify the teaching in their case, as it has done in my own experience.

The first point which I urge is that the subject should be considered with the object of giving the learner a better knowledge of geographical facts in general, by giving him as good a knowledge as possible of a few physical features, which may be taken as types of similar features in other parts of the country. This theory of types of what I term geographical structure raises the standard of geographical attainment to the highest practicable level; so that the learner attains a basis of comparison between his knowledge of some hills or valleys or rivers and his ignorance of others, which is calculated to stimulate and train habits of observation and reflection that will have an enduring influence. At the same time, the study of geographical types does not augment the amount of work which the pupil must perform, but rather enables teacher and pupil alike to realize that geography is a matter of reasoning, observation, and mental discipline, which claims more serious consideration than it always receives. I propose to illustrate the nature of this use of maps by examples taken from my own teaching experience.

Many years ago I wandered into a quarry at Pelm, near Gerolstein, in the Eifel district of Germany. The quarry was in the Devonian rock, which we know as the Eifel limestone, very similar to the Plymouth limestone, which is found near Torquay. Asking the first boy if he had any fossils, I was astonished at the reply that he had nothing but a few Trilobites, which all belonged to the genus Phacops; but that, if I went to the *Gasthaus*, the landlord had plenty of corals, Cyathophyllum, and other kinds. On inquiry, I found that this lore had been gained in the primary village school; and that the distinctive feature of German education, beginning with the lowest round of the ladder, has been to train every child in observing, by teaching him to see the things around him, and make them matters of daily thought. We have a country which lends itself more readily to detailed observation than does the surface of Germany, and there is no reason that I can discover why the physical features of Britain should not be the means of creating the scientific instincts and aptitudes, thru the medium of geographical training, in every child who comes under a public teacher's care. And I believe that we cannot afford to neglect this advantage in competition with other peoples. Frequently the larger part of the teaching must be given from maps, with only an occasional glimpse of nature. But maps such as those which I refer to and use are the most perfect pictures of nature that it is possible to devise.

I am urging that the method which can be followed with most advantage in geographical teaching is to gain a little real acquaintance with those phenomena of nature which are immediately around the place where education is carried on, mainly because what is seen day by day becomes thought over week by week and year by year;

so that whatever educational superstructure can be raised on that foundation by the skill of teacher or enthusiasm of pupil should be given the best chance possible of developing the mind.

It is difficult to realize the work of the sea in leveling the land in past geological times when its surface was submerged, without recognizing that excavation must have gone on on the surface of what is now dry land similar to that which is forming Filey Brigg and Filey Bay on the Yorkshire coast. It may not be possible to separate the work of the sea from the work of frost and snows, rain and wind, with the precison that is to be desired. But we should overlook the evidence of facts if we attributed the conditions of the shore entirely to the sea, and the conditions of the interior of the country entirely to the agencies which are now seen to affect it. The relative durability of rock, and the direction in which it extends in consequence of being folded, are not always sufficient to determine whether submarine or sub-aerial agency has been at work. For, while the latter appears always to follow and never to interfere with the folding of the strata, the coast of the English Channel only follows in a very general way the east to west direction which the geological deposits take; and along the Yorkshire coast every stratum is cut across by tidal denudation, at right angles to the direction of its extension, to form the cliffs in the line of the seashore. And this want of regard for the difference of geological deposits is one of the characteristics by which the work of the sea is in many cases recognized. If the English coast were explained with the aid of the geological map alone, there would be few features in its form and contours for which adequate reasons could not be given. But, when to this record of structure the use of the contour map is added, the headlands appear of their true relative height, and the recently uplifted flats are separated from ground which has not been leveled in the same way.

This method of study of the geographical phenomena of the country by means of typical examples of its physical features, I desire to see taking the place of less exact and, as I believe, less useful methods of geographical teaching now current in textbooks. I commend it to my fellow-teachers, not as a theory, but on the basis of my own practical experience with many generations of pupils. I am led by that evidence to believe that difficulties which may have to be overcome are not inherent in the nature of the materials, or in the power of the learner to appreciate the interest of the maps and sections compared.

It is always a difficult matter to determine the limit of time which should be placed upon such generalities of study as the form of the globe, of the continents, of our own islands, and to fix the precise age at which the study of the local geography, by means of these maps, comparing rock structure and surface form, can be best commenced with advantage. This is a practical matter which must often be solved quite as much by the conditions of local geography as by the judgment of the teacher.

London. HARRY GOVIER SEELEY.

Geography Thru Map Drawing*

The object of a map is to give a complete geographical picture of the country. Thus it will follow that a map rather consists of a series of charts, each of which illustrates some particular characteristic. Take one outline, for example, and mark, either by lines or color shading, the contour of the land. Having done this, you will find that you have provided yourself with sufficient data for determining the lines of drainage, and the particular localities of the riven basins; but you will find, also, that having put in the contour and the river basins, you cannot add anything else without compromising the clearness of your chart. This, in short, is the physical map so called. Now take another outline, and mark in the distribution of minerals, details of which can be obtained from the text-book, and this will give you chart No. 2. Put these two charts together and you can by a process of elementary reasoning, make up a third to illustrate the distribution of industries, and, by remembering the law of congestion in manufacturing centers, a fourth to portray the distribution and density of the population. Railway routes and trade lines will follow on a fifth chart, and so we go, from chart to chart, until we have all the facts concerning the country marked out in reasoned sequence. Then, and then only, have we the complete map. According to this it will be observed that the map illustrates the text-book, and the text-book verifies the map; that map and text-book form inseparable complements. Observe further, that it is much more rational to expect a knowledge of the geography of the country from the study of a complete map without a text-book than from a text-book without a map. Maps, properly considered, are text-books in themselves.

Viewed in this light, how are we to regard the drawing of maps by the scholars in geographical education? Geography, properly taught, examines the influence upon the world, as a habitable area, of the natural phenomena at work upon it. It is, thruout, a reasoning of cause and effect; an uninterrupted series of deductions based upon the laws of physical geography. Maps are intended to illustrate graphically the effect of these laws, and should stand to the student, with regard to geography, in much the same relation as charts and tables do in the matter of history. When a student works at a period of history, he makes out a series of charts and tables to illustrate his reading. By working at his text-book and his own charts and tables side by side, he will be able, when he knows the period, to call to mind all the details of his charts while reading his text-book, and *vice versa,* by running thru the charts, will be able to go over in thought the whole narrative of events as given in the text-book. Just such a relation is that existing between maps and text-book in the teaching of geography. Worked at properly and intelligently, with a correct appreciation of the relationship existing between them, they are absolutely complementary the one to the other. The text-book, as a matter of fact, presents a mass of details which find their counterparts in the pictorial representation of the map.

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* EDUCATIONAL FOUNDATIONS is indebted to the London *Educational Times* for these very practical school-room hints by Mr. Phillips.

Again, turning once more to the historical student who works at his text-book and charts simultaneously, if he knows his period well he will be able to make, at any given time, a set of charts and tables, of more or less detail, which shall declare all that is essential to the correct understanding of the progress of historical events in the period under consideration. In exactly the same way, if a student knows the geography of a country, and has accustomed himself to making illustrative charts as he has proceeded, then he will be able to reproduce these charts for the illustration of any given principle or distribution; and this is the prime end of map-drawing.

A student can be considered to have drawn a map only when every line and dot that he puts into it represents an actual geographical image present to his mind, and which has come to him from some independent source. If this be so, and if a map drawn by a student should, rightly considered, be a pictorial representation of the geographical knowledge in his possession, it follows that capability in drawing it is a matter of slow growth, involving quite other things than the power of reproducing straight lines and curves.

One of the most prominent features in any map is the distribution of the latitudinal and longitudinal lines, and it is a very natural question to ask, whether it is advisable, in the drawing of the map, to reproduce these lines. The drawing-master will say decidedly so, for they act as good guiding lines, tho he may probably add that certain other guiding lines would be much more useful; the geographer would say that it is not only advisable, but absolutely necessary, to put them in, and for quite other reasons than those offered by the drawing-master.

The general position, then, having been indicated by the parallels and meridians, the outline will necessarily be copied from a map already existing, tho it is worth while noting that from a complete and correct description of the coast an outline might be drawn without the slightest reference to one already made. But here the use of a manufactured map should cease, except for the purpose of verification. Henceforth the information of the text-book is to be transferred to the chart; and a complete text-book will afford all the information required. The making of the map will be, as already remarked, a slow process, gradually proceeding with the increase of knowledge in the geography of the country, and will entail some seven or eight, perhaps a dozen, separate outlines, each forming a special chart by itself for the illustration of some particular aspect.

The pupil should begin to draw his map with the very first item of geographical knowledge he obtains. Suppose, for instance, he discovers that the Hudson has an estuary bearing to the north, let him immediately draw a map of it, which, tho not strictly correct as a drawing, will be sufficiently near the truth for the purpose immediately at hand, namely, that of accustoming him to make a pictorial representation of every geographical image present to his mind. He discovers, again, that just at the junction of the estuary with the sea there are Jersey City on the right bank and New York on the left, whilst higher up the river, before it has actually merged into the estuary, there can be found Yonkers on the left and Newburg on the right. Let him make a map of all this, and then refer to his atlas to see how far his representation is correct. This is true map-drawing. The most highly developed map-drawing in the whole range of geographical education is nothing more than the continued application thru wider areas and in larger considerations of these same elementary principles.

One other conclusion will naturally follow: that the map and text-book are not only complementary, but reciprocal in their purpose and use. If a pupil can develop a map by pictorially reproducing the information of the text-book, so can he produce a large proportion of the text-book by carefully describing all he sees on the map. These form two exceedingly good exercises. Provide your pupils with a text-book, and let them be without any access to a map or atlas. Let each pupil be further provided with an outline, which he may already have made, and then require him to represent upon it a certain class of detail such as the distribution of race or industries, the physical features or directions of the political boundaries, all the information relating to which is to be obtained from the text-book. Provided a pupil has been accustomed to work of this sort, then one of the surest tests of his knowledge is to require him to reproduce from memory on a given outline the facts with which he is supposed to be familiar. Map-drawing conducted on these principles would not admit of its being called a waste of time, nor of being thought more suitable than not for the drawing-master to take in hand. The reverse exercise is likewise of the highest value, in which the pupils are required to write a description of a certain class of phenomena to be observed on a map: the distribution of mountains, or the directions of the railways, say. Let them do this with every species of phenomena until the whole map, or sets of maps, is exhausted. In other words, require them to write for themselves a geography of the country represented. It is easy enough for the writings of other people to pass out of our minds: we do not so easily forget what we ourselves have written.

Hitherto it has been the custom to look upon an educational atlas and a reference atlas as one and the same thing. There has been, in this respect, no distinction made between requirements of the office and the school-room. This misconception started from the error that all geography consisted in the simple localizing of the places on the surface of the earth, and from an inability to understand that it is rather a series of illustrations of the effects of certain natural laws. The business man requires to know how far it is to a certain port, and the best way to get there; the geographer wishes to know how the port is situated with reference to outside communication and the physical conformation of the neighborhood. Hence he discovers what sort of a place it would be to live in, what are its probable productions and industries, and what its chances for development. But good text-books and good maps are not in themselves sufficient; what is further required is to get text-book and map into proper relation.

T. W. Phillips.

Questions on the articles in this department of Methodology will be found on page 37.

Child Study and Child Training.

The Study of Child Nature.

BEFORE we can treat a child as he ought to be treated, we must study him and find out all we can about his nature. Intelligent teaching is impossible without some practical knowledge of child nature.

There are two main ways in which we may study the child. First, we may carefully examine his outward appearance, and patiently observe all his doings. We may watch him at work and at play, when he knows we are watching him, and when he thinks he is unobserved. Nor need we be entirely passive. We can modify the child's surroundings, and note the effect of each change. To this extent we may experiment with him, and find answers to many questions that naturally arise regarding him. But this method of observation and experiment is not in itself sufficient. All the while that we are observing the child, we are consciously or unconsciously interpreting all his actions and sayings by referring them to our own experience. We assume that he acts from the same motives as we would under the same circumstances.

INTROSPECTION.

Hence we have the second method of studying the child. To understand him we look into ourselves, and from what we find there we guess what is to be found in him. This method of *Introspection* is liable to mislead us; for when we look into ourselves we see the inner nature of an adult, and we have no right to assume that this is the same as the inner nature of a child. It is a very common error to regard a boy as a little man. But this is precisely what he is not, any more than a grub is a little butterfly, or a tadpole a little frog. A boy is, if you like, a man in the making; but to treat him as if he were already a man—tho a little one—is as unreasonable as to feed a grub on a butterfly's food, or expect a tadpole to breathe the air directly, like a frog. We must accordingly seek some means to guard ourselves against this danger of error. If we cannot judge of child nature from our present selves, we may fall back upon our former selves; for if we are not now children we at least once were. We must throw ourselves back in memory to our own childish days, and thus seek to realize how the child now before us feels and thinks. But there is nothing more difficult than this throwing of ourselves back into the past. The memory may be perfectly honest, yet it cannot help carrying back from the present some of its acquired stores, and thus conveying to us the impression that at certain early ages we knew things, the knowledge of which was really acquired much later. We must therefore do something to help the memory to be exact as well as honest.

A RECORD-BOOK EXPERIMENT.

Even to sit before the fire and let the thoughts wander back into the past in free reverie is an excellent exercise for the teacher who would understand his young pupils. But much better results are obtained by some such method as the following:—Set down roughly on a sheet of paper all the incidents of your childhood's life that you can remember. Then get some of your older female relatives to give you the dates of as many of these incidents as they can. Now rearrange your incidents in chronological order, and in doing this make use of all the tangible objects within your reach that were in any way connected with those early incidents. In particular, any books that you may have read, or had read to you, should be re-read—if possible in the very copy formerly used. It is surprising what a revivifying of the past is the result. In almost every case the experimenter is astonished at how much he knew at given ages. It is certain that adults usually underestimate rather than overestimate the knowledge of a child of a given age; but in dealing with the results of this record-book experiment, we must make allowance for the trick of memory referred to above. A certain deduction must be made to allow for this tendency of the memory to read some of our present into the past.

PUT YOURSELF IN HIS PLACE.

This record-book experiment involves a good deal of trouble, but it is interesting in itself, and in its results invaluable. No teacher can hope for success who is not able to put himself in the place of the pupil. Only by looking at the world thru the pupil's eyes can the teacher understand how to deal with that world in relation to the pupil. The lack of the power of putting one's self in the place of another accounts for more failures in life than all the other lacks put together. The teacher who practises himself in this transference of the point of view, will find that he not only becomes a better teacher, but that he becomes a more useful human being. The exercise pays, even from the lowest worldly standpoint.

ANABOLISM AND CATABOLISM.

The life of every plant and animal implies two processes—

a building up and a breaking down. On the one hand, life consists in the taking in of nutriment and the building up of tissue; on the other it consists in the expending of energy and the wearing out of tissue. Both processes are continually going on tho not always at equal rates. During strenuous work the breaking down is more prominent; during repose the building up. Yet there is a certain amount of building up going on while we are working, and a certain amount of breaking down while we are sleeping. It may make some people happier to know that the big name for the building up process is *Anabolism*, and for the other, *Catabolism*.

In the case of full-grown, healthy people, anabolism and catabolism just balance each other; but with older people the breaking down gets more and more the advantage of the building up, while with children exactly the opposite is the case. The child must build up more than he breaks down, else he would always remain undeveloped: he must not only live, he must grow. If the matter is carefully considered, it will be found that all points of difference between the child and the adult have a fundamental reference to the relation between anabolism and catabolism in the two cases.

It must not be supposed that the storing process and the expending process are limited to the physical side of the child's nature. They are equally prominent on the mental side, which is the side that most interests us here.

CHILD CHARACTERISTICS.

There is no attempt at psychological precision in the following account of the main characteristics of the child as compared with the adult. All that is meant is to give such a description as shall be of use to the young teacher.

Restlessness is probably the most characteristic quality of children. It is very commonly treated as a defect, but it is really nature's provision against a one-sided development. If we teachers had our way, our pupils would become sadly lop-sided; they would be bookish in the extreme, and even their bookishness would be limited to one kind of books. But nature steps in, and by making the pupil incapable of long sustained attention, gives him the chance of an all-round development. So far from complaining about restlessness, the teacher must make it his friend. Let him avoid undue demands for long-continued attention to one point. By appropriate changes of point of view, the same subject may be made the center round which the restlessness of the pupil exercises itself.

Curiosity is specially strong in children, as one might naturally expect who knows that the first necessity of child nature is to build up. It is right that a child should want to know things, for this desire impels him to acquire that supply of material that makes mental growth possible. Curiosity is the gravitation of child life — the motive power on which the teacher must rely.

Credulity has been prettily described as the charm of childhood. It is certainly a prominent feature of child nature, tho at first sight it seems inconsistent with another childish characteristic — a tendency to captious criticism. Yet each has its own place, and together they tend to aid in the building-up process. A child is credulous about things of which he knows nothing. This enables him to accept easily all that is presented to him. He is thus abundantly provided with material upon which to exercise his powers. So far good, but since all material is not equally useful, a discrimination must be made. Accordingly, the critical attitude has its place here. Its exercise appears captious and finical, for the simple reason that it is restricted by the very narrow range of the knowledge already acquired. It frequently takes the form of verbal criticism. "You said so-and-so," is very often the beginning of a charge of inconsistency, which can usually be readily met by the statement of a higher law (till then unknown to the child) which reconciles apparently conflicting elements. Here, obviously, both credulity and criticism can be turned to profit by the careful teacher.

A *vivid but uncontrolled imagination* is another marked feature of child nature. It is easy to see that this also is correlated to mental growth. The child first gathers into his net everything that comes along. It is only when he has acquired an excess of material that he becomes critical and reduces his imaginings to some sort of system. So vivid is this early imagination that it sometimes interferes with the conception of truth. In the very early years of childhood it is difficult to say that a child is lying, even when he is not speaking the truth. What the teacher has to do is to utilize the imagination for his own ends, for if it does not help him, it will certainly hinder. It must be active: it cannot be suppressed.

Another force in child nature of which the teacher must take account is a *crude sense of humor*. Children are amused at things that in no way strike an adult as funny. They find incongruities in groups of ideas which are quite familiar to adults; so in preparing matter for teaching we must always carefully consider whether we are not placing together ideas that to a young mind may appear an outrage on the nature of things. Childish humor often takes the form of verbal quibbling. To this the teacher should give no encouragement.

Closely connected with the vividness of the young imagination is the strong *dramatic instinct* inherent in most children. In the development of the individual child there appears a very early and very strong disposition to play a part, to suit the action to the word, to mimic the doings of others. Children are constantly imagining themselves to be somebody else, and they change in their imagination all their environment to suit their changed view of circumstances. This is nature's provision by means of which the child makes himself master of his surroundings. By treating the world now from one point of view, now from another, the child gets a better view of the real nature of things, and becomes more at home in his surroundings; while by the exercise of imitation he unconsciously puts himself in the best position for dealing with the world in which he finds himself.

DIFFERENCES BETWEEN THE CHILD MIND AND THAT OF THE ADULT.

All that has gone before has a very definite relation to the fundamental difference between the developed and the undeveloped mind. This difference may be roughly expressed by saying that the undeveloped mind deals more with the concrete, the developed with the abstract. The child deals with things as they stand, rather than in their relations to one another. He does most of his thinking by pictures or by types. When we talk of a dog he thinks of his dog, and makes it stand for all the rest. All a child's senses are at least as keen as those of an adult, and yet the adult seems to see and hear more than the child does. The explanation is that we see with our minds as well as with our eyes, we see the present thing in the light of all we have seen before, so that the adult brings to his observation much that is still unknown to the child.

For a similar reason, adults seem to remember things better than children, and yet children have the advantage in the way of memory. Perhaps the period between seven and ten years of age is that at which memory is at its best. At that age children find it easiest to learn things by rote. The memory is plastic, and can take in and retain all sorts of unconnected ideas. At this stage the child is busy acquiring materials for future elaboration, so here as elsewhere we find child nature modified to suit growing as well as living. Memory as a mere power of storing impressions is stronger in children than in adults. Grown up people, on the other hand, by the greater number and better arrangement of their ideas are able to recall things more easily than children. Yet the impression left on the memory at an early age is much more clear and distinct than any later impression can be. Nothing can do so much to increase the teacher's feeling of responsibility as a consideration of the importance of these early impressions.

So far we have been treating of children in general, or of the *child* as we might of *the lion*. That is, we have assumed that all children are pretty much alike, and that one child may stand as a type of all children. This is true so far as it goes, but it represents only one side of the truth. Experience shows us that children differ very greatly from each other, and since the teacher has to deal with individual children, he must study differences as well as resemblances. He must study the children here and now before him. No doubt all that we have already said will help the teacher in his study, but he must never expect a book to do for him what can be done only by personal observation.

MOTOR AND SENSORY CHILDREN.

Teachers find it a help in their study of pupils to classify them according to temperament. Very elaborate schemes of classification have been drawn up, but for our purpose the simplest is the best. This is the twofold classification, into *motor* and *sensory*.

(*a*) Motor children are those that respond very readily to any outside influence, and this response takes the form of immediate action. They are quick, eager, alert: they waste no time in making up their mind, and immediately act upon whatever conclusion they arrive at. They are quick in temper as in intellect. On the other hand they lack perseverance. They learn quickly, but do not retain particularly well what they have learned. As a compensation, they do not retain anger long, and are generally more forgiving then sensory children. The defects of the motor child are hastiness in forming judgments—he jumps at conclusions—and a certain fickleness, which, however, does not prevent him from being usually rather attractive.

(*b*) Sensory children are slower in responding to any stimulus. They receive all manner of impressions, and make no sign. They are passive as compared with the motors, but their minds are active enough, and their conclusions are often sounder than those so speedily reached by the motors. The difference between the two temperaments is most marked in the greater tenacity of the sensory children. Their weakness lies in a certain timidity born of the desire to see all sides of a question before coming to a decision. The resulting slowness and hesitation renders sensory children less attractive to the ordinary adult, and to the superficial teacher who desires immediate results. But the thoughtful teacher, who studies and understands child nature, finds that on the whole his best work can be done with the less immediately responsive children.

DANGER OF CLASSIFICATION.

A caution is here necessary. The teacher must not expect all children to fall easily and definitely into two groups. Speaking generally every child is predominantly either motor or sensory, but some children have a much more marked bias than others. The types as described above are boldly marked off from one another, but in actual experience we find all degrees of gradation between the typically motor on the one hand, and the typically sensory on the other. The value of the distinction lies not so much in itself as in the vantage ground it supplies for studying children. In fact all such classifications are valuable only in so far as they are applied to and corrected by experience. For example, there is a certain amount of truth in, and a certain amount of instruction to be derived from, the statement sometimes made that girls have usually the motor temperament, and boys the sensory. But to apply this distinction without reference to the individuals of a given class would be very unwise.

REACTION DIFFERENCES.

Further, even if we could classify children with absolute certainty as to their individual nature, we should find that a new consideration would prevent our acting upon our classification without direct reference to actual experience. For, as a matter of fact, the child's nature varies according to the person he is dealing with. In a certain sense he may be said to have as many personalities as he has persons to react upon. In dealing with bigger and stronger boys he is receptive and submissive: with smaller and weaker boys he instructs and commands. So markedly is this the case that some writers are inclined to find the unit of society not in the individual, but in a pair of individuals. They maintain that a person cannot act as person except in reacting upon another person, and that these two persons represent the unit of social life. It need hardly be said that this unit is continually changing. It is now a combination of boy and father, now boy and fellow-pupil, and again boy and teacher. The important thing to be noted is that the teacher must not think that the boy as he shows himself in his dealings with the teacher is the real boy, or at any rate the whole of the real boy.

It is well known that human beings—whether children or adults—act differently in the mass and as individuals. There is a mysterious force called the sympathy of numbers that regulates the actions of large bodies of people.

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How Children are Made to Suffer by the Mistakes of Educators.

AN interview of adults concerning reminiscences of their childhood, whether happy or otherwise, would be most interesting reading. The majority would no doubt give sentimental answers, saying that they always think with tears in their eyes of the beautiful days of childhood. A good judge of the human heart would not let himself be deceived in this way; he would justly doubt the truth of the answers and the genuineness of the feelings. Convention has decreed that childhood should be considered in every case the happy beginning of a history which gradually grows more and more tragic. Moreover, the heart-aches of childhood are soon forgotten. Hence we are, all of us, inclined to regard the first years of our life as a gay, cloudless idyl. In reality childhood has its tragic sufferings, its despair, its cares, its sorrows, which, tho different from those of adults, are none the less pregnant and keen.

The education the child is subjected to by his parents is a source of much suffering to him. No matter how kind and loving they may be, from ignorance of the great principles of education they frequently cause the child violent and absoluetely useless pain.

One defect of education, as it is commonly managed, is that it is controlled by impulses rather than by principles. The child has faults which must be corrected; but in attending to these corrections ninety per cent. of the fathers and mothers are governed more by momentary impulse of feeling than by calm reflection. If father and mother are in good humor because of some happy event, the child may enjoy a day of absolute freedom; he is allowed to do anything he likes without fear of reproach, yes, with a feeling of certainty that the parents will laugh at his pranks, or, at worst, call him to order in a good-natured way. If, however, father or mother happens to be out of sorts, then a strict government is instituted; the poor child cannot dare to take a step without running the danger of exposing himself to bitter, yes, violent, reproaches and relentless punishment. Even in the best of homes education is not uniformly governed by justice and system. The improvement of the children is not the all-pervading motif. The management of children is rather an outlet for the changing temper of parents, who to-day in their good humor hug and kiss their child and to-morrow pound their ill-humor out on him.

This fundamental injustice of admonition and correction deprives educational means of the moral effect they might otherwise have; besides it causes pain to the child. Let the reader try to recall the first years of his life as clearly as he can and he will remember to have lived in a state of constant inquietude, never feeling sure as to what his parents really thought of him. He may remember how he felt compelled to anxiously watch the face of his father or mother to read the state of mind he or she might be in at any particular moment in order to be able to estimate whether certain doings would be permitted or ruled out. He may be reminded of the bitter disappointment to which he was constantly exposed. Often the child plans a pleasant surprise for his parents, sparing no pains and feeling fully convinced that they will be glad of his thoughtfulness and reward him with praise; instead of that he is roundly scolded and perhaps even punished because these parents happen to be cross. These are a few of the little disappointments and bitternesses in child-life, but they are—momentarily at least—no less painful to the child than the greater disappointments to the adult, for the whole life of the child is limited to the little world within the family, where to-day it finds only good, to-morrow only evil.

The whimsicality of education, moreover, greatly and needlessly increases the child's difficulty of arriving at a clear understanding of his duties. What is worse, it nurses in the child a sort of pessimism, an embryonic persecutory monomania because he comes to regard himself as the victim of people who are physically and intellectually his superiors and who simply employ their power to vex and torture him without cause. This state of mind is much more common in children than is generally believed; one who wishes to convince himself of this fact has only to listen to the conversations of children among themselves when dissatisfied with the treatment accorded them, or to analyze the remarks that escape them when they weep and lament over a punishment they have suffered. The thought of the utter unreasonableness of ill-treatment often enough wrings from them bitter tears.

Another sin which educators frequently commit is that, without being conscious of it, they cause the children pain by not taking them seriously enough in some matters and again too seriously in others. The child mind produces strange wishes and phantastic desires which adults laugh at often in the presence of the children, without recalling that they themselves were not born fully developed men and women. The frivolous scoffing of adults wounds the child heart deeply, and he feels humiliated and intimidated. The child, too, has ambitions. And as he lives in a period of lively intellectual development during which he produces ideas only with much labor, raises doubts, and puts questions, he is excited and inspired by everything he thinks and does; he loses confidence in himself when he finds that the fruit of his reflection and laborious mental work is received with laughter by those who stand on a higher intellectual plane.

I shall never forget the expression of pain and dejectedness which I once saw on the face of an eight-year-old boy who had for the first time written a letter to his relatives and given it to his father to look over. The letter was full of mistakes, full of naive turns and errors which threw the father into a fit of laughter. The poor boy who had spent care and labor on the letter, at last could not bear the torment any longer; he tore the letter from his father's hands and ran into another room where he hid himself and cried bitterly. True, not all children are as easily excited as this boy; but all have more or less developed ambitions, and when they are injured here they suffer unspeakable pains. And what educational advantage is gained thereby? Absolutely none, not a scintilla of one.

As regards the many strange wishes and whims which occupy the child mind the case is equally deplorable. In order to be just to parents we will admit that the fight against these whims is a difficult and laborious part of their serious duties. But there is no reason why many of these so-called whims should not meet with more indulgence than is usually accorded them, providing, of course, that they are not harmful to the child himself nor dangerous to others.

Often the child is called capricious because his wishes are not within the established limits of the monotonous rhythm of our habits, because he wants to take a walk, eat, play, sleep in the hours which, according to our notions of time-division, ought to be devoted to other occupations. We must remember also that the wishes of the child tho volatile are intense and would like to realize themselves at once, because the child lives wholly in the present; giving himself up to the moment is part of his nature. If parents are so situated as to be able to do it, it would be advisable —especially when the child is between four and eight years of age—not too forcibly to oppose this irregularity of wishes and, up to a certain point, also not their impetuosity. The elasticity of desire which we call caprice, which, however, in reality is caprice only to *us*, is a deep, organic need of the child who cannot yet adapt himself to the altogether too systematic order of our activity. His mind and organism are not yet like ours, a carefully-regulated clockwork whose every wheel turns at a certain time in order to accomplish a precisely determined movement. Some day the child will certainly adjust himself to the monotonous rhythm of social life; but my observations induce me to believe that the labor of adjustment is not necessary and should not be required before the ninth or tenth years, and that it is absolutely unnecessary to do violence to the body and soul of a child of six or seven by forcing our systematic manner of life upon him; for this coercion is to the child not only painful *in* and *per se*, it may also have serious consequences.

Impulsiveness begins to disappear later, at the age from twelve to thirteen, more in consequence of a natural change of character than under the influence of objective education. Before this time it is nothing more nor less than a normal peculiarity of the child mind for which we ought at least to have some regard. If the sensations of the child are transient what reason is there for delaying the granting of rational wishes until they have weakened or become entirely extinct, when we might just as well grant them at once? Yet many will remember at least one occasion in their childhood when they had a fervent wish for reasonable, permitted—yes useful, things, and still owing to educational perverseness, inconsistency, and delay it was not granted till it had completely died out.

To be sure, indulgence of so-called whims and the impulsiveness of children must not go beyond certain limits. It is, of course, impossible to determine these limits by general principles. Hence conscientious educators should by thoughtfulness and in the light of experience determine for each individual case just where to draw the line. Usually this rule is disregarded, and the "capriciousness" and impulsiveness of the child finally produce in many parents, even in the most loving ones, a state of indefinite excitability which unconsciously prompts them to oppose every wish of the child.

In many families there is a sort of constant struggle between parents and children, which does not at all exclude mutual love, which, however, transforms the mutual will-inclinations into two like poles which repel one another. If the boy wants to eat, he is told immediately that it is too early or too late, and that he must wait. If he wants to take a walk it is said that the weather is too disagreeable or too cool, that he had better stay at home. Frequently there follows in the mind of the father upon the first opposition a feeling of remorse and in consequence he grants the wish. But, as a general rule, whenever a child utters a wish in a somewhat lively manner or somewhat unexpectedly, no matter how reasonable and just it is, the first reaction in the fatherly or motherly heart is refusal. This malicious tendency is most frequently met with in nervous persons who at present, unfortunately, form so large a part of the intelligent classes in civilized nations, and at bottom it is nothing but an excitability produced by physical and moral disturbances caused by the whims of children. In consequence of this excitability the mind is gradually evil disposed and controlled by an indefinite and half-unconscious instigation to thwart the child. This latent malevolence is a source of pain for the child, whether the first refusal is followed by a remorseful concession or whether the father stands by his refusal owing to a feeling of ambition and pride which prevents him from contradicting himself before his child—a feeling, which, tho absurd and childish, is nevertheless a weakness of many men and a frequent cause of domestic quarrels. In one case the child suffers the pain of refusal and grows more timid in the utterance of his wishes; in the other case, he suffers not only the pain of refusal which the non-fulfilment of his wishes causes him, but he is drawn still deeper into that embryonic persecutory monomania of which I have already spoken and which is the true form of the melancholy in children.

On the other hand, we take children too seriously when we want to compel them to observe all the complicated formalities of social intercourse. It may be said that three-fourths of the education which children receive of their parents consists in initiation in the forms of intercourse. Why is this done? Why is the greater part of the time wasted in teaching children when and where to take off their hats, how to behave under given circumstances or in the presence of certain persons, how to eat, how to walk? Why are the children tormented with the inculcation of social etiquette and ceremony? All these things ought to be known, true enough, but the learning of them costs much labor at an age before the eighth or ninth year, while at a later period they are acquired with the greatest ease. Moreover, all these rules, tho universally useful, are without any special significance, for the external forms have no organic connection of any sort with the sentiments which they are to express. What is the reason, for instance, that the lifting of the hat signifies respect of persons? Since these actions have no rational basis by which the child might account for their significance, he can learn them only by much practice. And this practice is all the more difficult at an age when the mind is restless and distracted and the will less concentrated and less master of itself. The child frequently forgets and violates some form of this complicated and burdensome ceremonial because his attention is turned from it by his want of movement, his curiosity, his play impulse. Often, in a case of this kind his parents pour reproach over him as if he had done some grievous wrong. Why are parents not satisfied to let the child so conduct himself that he does not bother adults; and why do they not limit the observation of the forms of etiquette to a minimum? Why will they force the tender limbs and undeveloped mind of the youthful creature into the fetters of a ceremonial which even we adults find sometimes too severe and too burdensome? What difference does it make that the boy moves about frank and free, without giving heed to conventional forms, so long as he is healthy and cheerful and grows strong and vigorous in body and mind?

In short, the cardinal sin of education, as commonly conducted, is that we look upon the child from the standpoint of the adult and treat him accordingly, that we force our ideas and feelings upon him, instead of being governed in education by *his* psychology. The consequence of this error is that there is inherent in our ordinary methods of education a certain unconscious harshness, cruelty, and brutality which a future generation of refined sensibilities will regard as an abomination. We inflict suffering upon the child without wanting to do it, because we are not able to form clear and precise ideas of the state of his mind, of his wants, his thoughts and feelings, because we are not able to enter into his innermost heart and to look at things thru his eyes.

Fortunately the child has an effective remedy for the pains that we are constantly causing him, in the volatility of his feelings. He suffers intensely for a brief moment and then forgets again by returning to the laughing and cheerful thoughtlessness which is his normal state. Nevertheless, nothing is lost in life and nothing disappears without leaving some traces behind; these passing pains exercise an influence upon the organism and the psyche of the child. For this reason we must seek to reduce them to the smallest possible number and degree and strive to make the life of the child a cheerful and joyous one. After-life will supply him with cares and sorrows and sufferings without number. Why strew thorns upon the path of the child?

To be sure it is not well that every wrong a child does should be at once forgiven. But parents and teachers must not punish anything that does not really deserve punishment. Above all, fathers and mothers and educators generally must strive to know and understand their child. It is not sufficient to feed the child, to protect him against disease and danger, and to love him blindly;

the supreme duty of fatherhood and motherhood is to learn to understand, to know the child. If this duty is conscientiously performed it will not be difficult to learn also the most essential elements of a good education—prudent and rational indulgency.

University of Turin. GUGLIELMO FERRERO.

Cautions for Child Students.

Child study, if it is to be profitable, must conform to scientific standards; it must not be treated as if it were a trick or new "method." First: a real psychological training is necessary. A smattering of psychology imposes on the unwary victim the illusion that he can proceed deductively; and he straightway makes unwarrantable inferences from what he thinks he sees. Next: observations must cover a large ground. They must be observations of many children. *Enumeratio simplex* calls for a multitude of particulars. If the observer is pre-occupied with but one or a few children, he is certain to be misled into conclusions on too slight a basis. He will not know how many of the phenomena which he chronicles are common to children, and how many (if any) are abnormal. He will not see the wood for the trees. Finally: observations must not only cover a large ground, but they must also be checked by close observation of some individual children apart from the crowd. The observer will otherwise attribute to every child what may be common but not universal, nor even general. He will not see the trees for the wood.

P. A. BARNETT, in *The School World*, England.

Questions on Dr. L. Seeley's Article on "True Tests of a Good Method of Teaching," page 6.

1. What is meant by method in teaching?
2. Why is a good method essential to success in teaching? (Illustrate.)
3. What do Herbartians mean by their "formal steps" of instruction?
4. What scope is left to the individuality of the teacher in the employment of the "formal steps" of instruction? (Illustrate.)
5. Describe the necessity of prefacing the teaching of a new topic by a preparation of the pupil's mind. (Illustrate and explain the psychological reasons for the "formal step" of "preparation".)
6. *a.* What is included in the "step" of presentation? *b.* What are the chief kinds (or methods) of presentation?

(Continued on page 74.)

EDUCATIONAL CLASSICS.

Froebel's "Education of Humanity."

Adapted for EDUCATIONAL FOUNDATIONS from Herford's "The Student's Froebel."

EVERY Thing came forth from God, and by God alone is governed. The sole Foundation of all Things is God. In Every Thing, God rules and lives. In God all things live and move and have their being. Things exist only because God acts in them. The Divine that acts in each Thing is the Essence of that Thing.

§ 2. The Destination of all things is by unfolding to set forth their Essence, which is the Divine that lives in them: thus, to reveal God in and by what is outward and transitory. The special Destination of *Man*, as a Being endowed with Perception and Reason, is to become fully and clearly conscious of his own Essence—the Divine that is in him,—and to make it manifest in his own Life. The *Education of Man* is the Awakening and Training of his *Humanity* to Consciousness and Reflection, so that his outward Life may be an Expression of this inward Law.

§ 3. Recognition of this eternal Law, with Insight into its Foundation and the Variety of its Operations, is *Science—Science of Life:* and that Law, when applied in Practice by the thinking Creature on and by itself, is *Science of Education.*

A System of Rules issuing from Knowledge of that Law, designed to enable rational beings to become conscious of their Destination, and to fulfil it, is *Doctrine of Education.*

Voluntary Application of this *Knowledge* [science, or doctrine] so as to develop and train rational Beings, in order to attain their true Destiny, is *Art of Teaching.*

§ 4. The Aim of Education is to produce a pure, faithful, complete, and therefore holy, Life.

Knowledge and Practice united; Theory and Application coalescing into pure, faithful, and complete Living; this is *Life-wisdom.*

To be wise is the highest Endeavor possible to *Man;* it is also the highest Result of Man's self-determining Power.

To educate oneself and others, with conscious Purpose, is the two-fold work of Wisdom.

§ 5. The Divine in Man, which is his Essence, is to be unfolded and brought to his Consciousness by means of Education;

and Man himself is to be raised to a Consciousness of living up to, and realizing in Freedom, the Divine which acts within him.

The Divine as it exists in Nature is to be brought to Man's Knowledge by Education; which, at the same time, is to show that both Nature and Man are governed by similar Laws.

Education is to lead Man to realize in his Life the Truth that Nature and Man came forth from God, are ruled by God, and rest in God.

Education should guide Man to the Understanding of himself; to Peace with Nature; and to Union with God. Education, therefore, has to raise the Human-being to a Knowledge of himself and of Humanity; to a Knowledge of God and of Nature; and to the pure and holy life which follows from this Knowledge.

§ 6. The Essence or Divine Part of Things, and of Man, is known only thru their outward Expression. Hence must be admitted that the expressions [utterances], whether of Man or of other Creatures, are the Matters with which Training and Instruction are concerned.

§ 7. Education and Instruction should from the very first be passive, observant, protective; rather than prescribing, determining, interfering. Let children grow; simply seeing that they take no harm. For Education is, simply, helping the Divine within us to come forth, to act. We must assume that the young Human-being aims surely, if unconsciously, at what is best for itself, and feels within it Power and Means to attain this.

§ 8. To young Plants and Animals we give Space, and Time, and Rest, knowing that they will unfold to Beauty, by Laws working in each. We avoid acting on them by Force, for we know that such Intrusion upon their natural Growth could only injure their Development. Yet Man treats the young Human-being as if It were a piece of Wax, a lump of Clay; out of which he can mould what he will! O Men! as you stroll thru Garden or Meadow, Field or Copse, why use you not your Senses to perceive what Nature by her silent Language would teach you?

§ 9. Doctrine, Training, and Instruction have to be far more passive and observant, than interfering and coercive, because *needless* Interference and Coercion impair the simple Development, and steady Progress of Humanity. For to realize the Divine in Man and through Man's Life, with Freedom and Self-determination, is the very Goal of all Education, the Aim of Life; what Man is in the World for.

§ 10. Abstract Truth and the Ideal of Conduct must, and do in fact, exert themselves inexorably and unconditionally. But they do this only where Necessity speaks out in Circumstances, and the individual Character; and where the Necessity will one day be acknowledged by those to whom the Pressure is applied.

All Education, Teaching, Instruction, tho acting with Authority, must yet bear the incontestable Stamp of being itself subject to an over-ruling Law, an inevitable Necessity, which excludes Caprice.

§ 11. All true Education and Teaching, therefore, every genuine Educator and Teacher, has to be always, in every Detail, *two-sided;* to give and take—join and divide—command and obey—act and bear—manage and let alone—be fixed and movable. The Child or Pupil is to be so likewise; and betwixt the two—Tutor and Pupil, Command and Obedience—rules unseen a third Term, whereto Tutor and Pupil are alike and equally subject. This third is the *ideal Best*—the *abstract Right*—as it issues from the Conditions of each Case, and expresses itself, impersonally. The Teacher has to express, simply and firmly, sometimes even gravely and severely, his clear Acquaintance with, and quiet Obedience to, this third Term. The Pupil, too, has a wonderfully fine Feeling for it. A Child rarely fails to see whether what Parent and Teacher order or forbid, comes from themselves—personally, arbitrarily—or is the Expression of universal and necessary Truth, speaking thru them.

§ 12. Willing Submission to this changeless third Term, whereto Teacher and Pupil are equally subject, ought to be expressed in every Command of the Teacher, to the minutest Detail. So, the universal Formula for Instruction is: Do this, and see, in this particular Case, what will follow from your Action, and what Knowledge it will bring you. And the Prescription for Life itself, for every one—is: Manifest in your outward Action, your spiritual Being, that which lives in you, your true Life; and see what your Being needs and what it is like.

§ 13. If, then, to realize the Infinite by means of the Finite, the Heavenly by the Earthly, the Divine by Man and thru Man's Life, thus cherishing his originally Divine Nature; if *this* comes to us as indisputably the sole End and Aim of Education, what follows but that the human Being must be regarded in this Light from the very beginning of Its existence? Every Child in Right of Its Soul is to be received as something Divine appearing in human Form as a Pledge of God's Grace, a Gift of God. Such the early Christians, by the Names they gave their Children, really acknowledged them to be.

§ 14. Every Child ought to be acknowledged and cared for as an essential Member of Humanity: and thus Parents, as Guardians, ought to feel themselves responsible to God, to the Child, and to Mankind. Just so, Parents ought to regard the Child as in necessary Connection with the present, the Past, and the Future of human Development; and bring the Child's Training into Accord with the Claims of Mankind's Development, as it has been, is, and shall be. . . . .

§ 15. Man—Humanity in Man as an outward Manifestation—is on no Account to be viewed as complete, fixed, accomplished; but as continuously unfolding from one Stage of Development to another; ever growing towards a Goal which rests in Eternity and Infinity. . . . .

True each successive Generation, each successive Individual, has to pass through, for himself, all previous human Development: and he does pass through it, or he would not understand either the Past or the Present; but this is in the living Way of self-active Growth, not by lifeless imitation. . . . .

§ 16. Each human being should present Humanity in his own way, so that the Nature of Humanity and of God, as infinite, eternal, and containing all Variety, may be felt, and recognized, and ever more distinctly perceived.

No true, genuine Tending and Training of Mankind, can grow, bloom, bear fruit, and ripen out of any other root except from full and complete Knowledge of Man; all means and methods and whatever else needs to be known and used in this Tending and Training will, if earnestly sought, be found to follow naturally from this Knowledge. . . . .

§ 17. Hence Parents ought to be pure and clean in Word and Deed; filled with a Sense of the Worth and Dignity of Man; considering themselves Guardians of a Gift of God; studying the Function and Destiny of Man, with all Ways and Means of reaching it. . . . .

§ 18. Children, Members of a Family, will best exhibit the native Gifts, known or unknown, of the Family, if each Child, each Member, unfolds itself most completely and most originally. So Human beings, as Children of God and Members of Humanity, will best represent the Union of God and Man, which exists really tho unperceived, if each individual unfolds Itself as completely and originally as possible. . . . .

§ 19. Therefore from Its very Birth, from Its first Appearance upon Earth, the Child should be taken for what It is [Man, in germ], and have a free, all-round Use of Its Strength. No one Limb or Power should ever be fostered at the Expense of the rest;

the child should not be fettered, bound, swathed; nor by and by, held in Leading-strings. The Child should learn as early as possible to find within Itself the Center of all Its Powers; on this Center to rest; and resting on it to act and move freely. It should be taught to grasp and hold fast with Its own Hands; to stand and walk on Its own Feet; to look and see with Its own Eyes; thus to use all Its Powers equally, evenly. . . . .

§ 20. The Child's first Expression is that of Force. The Exhibition of Force calls out Counter-force; hence the Child's first Crying; hence It kicks against whatever resists Its feet; hence It seizes whatever Its Hands touch. Soon after, or along with this, social Feeling is developed in the Child: hence Its *Smiling*, Its evident Pleasure at moving Its Limbs in comfortable Warmth, bright Light, and pure fresh Air: this is the first awaking of the Child's human Consciousness.

§ 21. The earliest Utterances of the Child—that is, the first Expressions of human Life—are: Rest and Unrest, Pleasure and Pain, Smiling and Crying. Rest, Pleasure, and Smiling betoken whatever, in the Child's feeling, suits the pure development of Its being;—that is, of Human Life at the Child's Stage: to keep these undisturbed, all the Care, which is the beginning of Education, must be applied.

Uneasiness, Pain, and Crying betoken at first whatever hinders human Development in the Child: and all Rudiments of Education must attend to these, trying to find out and remove their Causes.

§ 22. In the earliest Crying, or Expression of Uneasiness, there is assuredly no Self-will; but Self-will springs up very early—we cannot tell when, or how—as soon as ever the little Being, scarcely more than a human Plant, begins to feel that It has been left by some one's Caprice or Indolence, to that which causes It Uneasiness or Pain. When this sad Feeling has once infected the Child, Self-will, first and ugliest of Faults, is alive. . . .

§ 23. Even when the right Way is taken, there may be Errors in Method. It is Man's Nature and Destination to be trained-up to endure severe Pains and heavy Burdens thru the bearing of light ones. When therefore Parents and those in charge are convinced that the Child, which seems uneasy and even cries, has really got all that It needs; and that whatever could hurt It has been removed; *then* they not only may, but ought to, leave the child to Itself and give It Time to recover. For if the little creature has but once, not to say often, by dint of impatient Crying extracted from those who have charge of It, Help and Sympathy not really needed, they have lost thereby much Ground not easy to recover. The little Creature has so fine a Perception of the Weakness of those around It, that if they give the Opportunity, It prefers using Its Power in the easier Way of governing *them*, than in doing or bearing anything, for Itself.

§ **24.** This first stage of human development is inexpressibly momentous for the Child's present and future life. Hence, the Look, the Countenance, of all about the Child should be clear and steady, wakening and nourishing Trust. Every Environment ought to be clean and bright: pure Air, clear Light, open Space—however scant the Furniture. For alas! what has been imbibed in Childhood, the Impressions of Youth, are often hardly to be overcome thruout Life; because in earliest years the whole Being is surrendered to Impressions from without. The severest Conflicts with *Self*, in later Years; the most painful Experiences; have often had their first Causes in this Stage; hence is the care of the Nursling so all-important. . . . .

§ **25.** The *first smile* marks Epoch in the Child's development; for it comes not from a self-feeling only, but from a social feeling, also; at first between Mother and Child; then with father and family; later between brothers and sisters, other human beings, and the Child.

This Feeling of Community which unites the Child at first with Mother, Father and Family, is the Germ of all genuine Religiousness, of all genuine Endeavor after Union with the Eternal, with God.

§ **26.** Genuine Religion, true and living; Piety such as will endure thru Danger and Conflict, in Needs and Straits, in Joy and Happiness; must come to the Human-being when It is a Nursling, or not at all. . . . . When, therefore, a Mother is seen to lay her sleeping Babe on its comfortable Bed, with a devout upward Look to their heavenly Father for His protection and loving Care, the Beholder is touched; and the Act is full of Blessing for the Child. Thus, too, when she takes it up from Rest, smiling and happy, her Lips moving in Prayer, as tho It were given her anew. . . . .

§ **27.** If Parents desire to provide for their Children this unshaken Prop, this never-vanishing Center, as the highest Portion for Life, *then* they must always be visibly, as well as inwardly united with their Children, when—in quiet Chamber, or in the open Air—they feel and acknowledge themselves to be in union with their God and Father, in Prayer. Let no one ever say, "The children will not understand it"; this were to rob them utterly of their higher Life. They do understand it, and will understand it, if only they have not already run wild; if only they are not already too much estranged from themselves and from their Parents. They understand it, not by their Intellect, but in their inmost Souls. . . .

Thus germinating and thus fostered, Religion will be victorious over all Storms and Dangers of Life. This is the Fruit of earliest Example left by religious Parents, even when the Child seems not to have heeded or understood. The result of all living example of Parents is equally certain.

§ 28. It is most important that man's Development advance steadily from Point to Point and be always viewed and tended as continuously advancing.

§ 29. No stage of child's growth must be overlooked. Parents must consider their Child in Relation to all Its stages of Development, without overlooking any. They ought especially to consider that the vigorous and complete Unfolding and Improvement of each succeeding Stage of Life depends on the vigorous, complete, and original Development of every preceding Stage. This Point is too often overlooked or unheeded by Parents. They assume the Human-being to be a Boy if he has attained Boy-age; they assume the Human-being to be a Youth and Man because he has reached Man's Years. This is a mistake. The Boy is not a Boy, or the Youth a Youth, simply because he has attained the Age of Boy and Youth; but by Virtue of having lived thru, first, Child- then Boy-hood, faithful to the Claims of his Soul, and Mind, and Body. Just so, Man becomes a man not simply by reaching the average Years of Manhood, but by fulfilling the Duties of all preceding Stages of Life—Childhood, Boyhood, Youth. Parents, otherwise able and intelligent, will require a Child to show Itself already a Boy or Youth; especially ask the Boy to show himself a Man; thus skipping the Stages of Boy and Youth. It is one thing to see and heed in the Child or Boy—in Germ, or Outline—the Youth and Man, that will one day be. It is quite another to look upon and behave to the actual Boy as tho he were already a Man; to expect Child and Boy to show himself Youth and Man; to feel and think, act and behave, as tho he really were so. Parents who expect this overlook or have forgotten the Processes thru which alone they themselves are become able Parents and useful Human beings; for this was by living thru the very Stages of Life which they now wish their Child to skip.

§ 30. This neglect of the early, especially of the very earliest, Stages of Development, in reference to the later, puts almost insuperable Obstacles in the Way of the Boy's future Teacher and Educator. A Boy so treated thinks, in the first Place, that he may omit entirely Instruction belonging to an earlier Age.

Again, the Effect is most injurious, most weakening, when a distant Aim is set before the Boy too soon; something external to be copied, or to be tried for; *e.g.*, Preparation for a certain Office or Sphere of Action. Child, Boy, Human-beings of every Age, ought to have one sole Aim: to be at each Stage what this Stage requires. Then each succeeding Stage will grow like a fresh Shoot, out of a healthy Bud; and the Individual will, with like Effort on each succeeding Stage, be just what that Stage demands: for the adequate Development of the Human being, on each Life-stage as it comes, is effected by an adequate Development of the Human-being on each preceding Stage, and in no other Way.

§ 31. Be this especially noted with Reference to unfolding and improving natural Activity in the Production of outward Results; that is, to foster Industry, Love of bodily Work. People in general have false Notions about manual Toil and Industry; about all Activity for material Results, as tho it were oppressive and lowering—deadening, vulgarizing—instead of what it *is: life-waking* and life-feeding: and it is more than that; it bears within it a Power to give life. . . . .

§ 32. "God created Man in His own Image, in the Image of God created He him;" therefore Man ought to create and work like God. His Spirit, the Spirit of Man, should hover over the shapeless Chaos, and move it; so that Form, and what bears Life in itself, may come forth. This is the high Meaning, the deep Significance, the great Aim, of all Toil and Industry; of all Doing and Creating, as we are quite justified in calling it. By means of Toil and Industry, we become like unto God, if our Working is accompanied by a clear Thought—even by the faintest Idea—that by our Doing we present outwardly what is internal, and clothe with Body what is spiritual; that we thereby put invisible Thought into visible Forms, and give to what is eternal and dwells in the Spirit, an outward, finite, and transitory Existence. We thus become truly like unto God, and rise ever more toward the Knowledge of Him; thus God comes inwardly and outwardly nearer to us. Eternally true is the Word of Jesus: "The poor [the toiling multitudes] have the Kingdom of Heaven," if they only knew it, and by Industry in Work realized it. Children, too, possess the Kingdom of Heaven; for they yield themselves up willingly and trustfully to the active formative Impulse within them, when not hindered by the Conceit and false Wisdom of their elders.

§ 33. The notion that Man toils and works solely to support his Body—his Husk—to earn Bread, House, and Clothes— is an Error, is lowering; to be put up with, perhaps on no account to be spread: for it is not true. Originally and properly, Man works to realize outside him the Spiritual, the Divine, which dwells within him; that he may thus learn to know his own spiritual Nature, and the Nature of God. The Bread, Dwelling, Clothes, come to him thereby. Jesus puts it: "Seek ye first the Kingdom of God;" that is, aim first at representing in your Life and by your Life what is Divine, and "all the rest," whatever your earthly Life needs beside, "will be added unto you." Thus, also, Jesus says: "My Meat is to do the will of God: to act, to work, as God hath laid it on me." Therefore the Lilies of the Field, which, in Man's View, toil not, are arrayed by God more splendidly than Solomon in all his Glory. Does not the Lily send forth Leaves and Flowers? Does she not in her Beauty make known the Nature of God? The Fowls of Heaven, that in Man's View sow not, labor not, are they not exhibiting in all that they do—when they sing, when they build their Nests—in all their manifold Actions—the Spirit, the Life, which God placed in them? To this end God feeds and sustains them. Thus Man, from the Lilies of the Field, from the Fowls of Heaven, should learn to set forth in Deed and Work, in Form and Matter, as he can, the Nature given him by God: in what *Manner* he shall do so——whether small and insignificant, or great and mighty—*this*, Place and Time, Rank or Calling, will decide. . . . .

§ 34. Now, all spiritual Workings, when they turn in finite Phenomena, demand Succession in Time. If, therefore, a Person at any Period of Life, early or late, has neglected to exercise a Power within him, it is inevitable that at some time or other he will experience a Want thru not having unfolded that Power; something will *not* be his, which would have been his, had he used all his Powers. For, by the universal Laws under which we are living, that neglected Activity would have had some Result, had it not been neglected. There is then a twofold Necessity—inward as well as outward, whereof the former includes the latter—that the growing Human-being be early developed to Activity in bodily Work for useful Production. . . . .

§ 35. The Nursling's unconscious Activity of Senses and Limbs is the first Germ; Its earliest conscious bodily Action is the Bud; the first impulse, to improve his Play, to build, and shape, is the tender young Blossom. In boyhood Man must be fertilized for future Industry, and Activity in Work. Every child, and later every Boy or Youth, of what Rank or Condition soever, should spend an Hour or two daily in productive Work. Children, and Adults also, are far too much occupied to-day with what is unformed and shapeless, and too little with simple bodily Work: yet to learn from Life, and by Work, is far easier, more thoro and in every sense, more improving. Children and Parents, indeed, so undervalue the use of bodily work in itself, and for their Children's future Position, that schools will have to make it their serious Task to set this right. The existing Home- and School-Training leads Children to Indolence of Body, and Laziness at Work: so this phase of human Power remains undeveloped, is wasted, to an immense Amount. In Schools it would be most beneficial to introduce regular Work-hours, beside the lessons of abstract Instruction; and this will have to be done. Hitherto, thru its being directed solely to outward and selfish Ends, the true Understanding and Value of Man's bodily Force has been lost.

§ 36. All-momentous as is early training to Religion, not less important is early training in Industry, in genuine Work-activity. Early Labor, conducted according to its inner Meaning, confirms and elevates Religion. Religion without Industry, without labor, may become empty Dreaming, a Shadow without substance: just so, Toil, Industry, without Religion, makes of Man a Machine, a Beast of burden. . . . .

§ 37. But human Force is to develop and operate, not only as resting *in* itself, *i.e.*, Piety, Religion; or again as working *outward*, in the form of labor and Industry: but likewise as withdrawing into, and resting upon, itself; as Self-control, Temperance, Frugality. For one not wholly devoid of Self-knowledge, this needs only to be indicated. Wherever these three—*Piety*, *Industry*, and *Self-control*, which in their Essence are one—work together in Concord: *there* is Heaven upon Earth; Peace, Joy, Health, Grace, and Blessing.

§ 38. Accordingly, man in the child is to be considered as a whole; accordingly, the life of humanity and of man in childhood, is to be viewed as one; accordingly, the whole future activity of man is to be looked upon as having in the child its germ. But unity can be realized only by particulars, and completeness of realization needs succession in Time. Hence, the powers, gifts and dispositions of man, his activities of limb and of sense, are to be developed in succession, and just as they make their appearance in the Child.

"I hold every man a debtor to his profession, from the which, as men do of course seek to receive countenance and profit, so ought they of duty to endeavor themselves by way of amends to be a help and an ornament thereunto."

—LORD BACON.

HISTORY OF EDUCATION.

The Life and Educational Labors of Comenius.

Adapted for EDUCATIONAL FOUNDATIONS from Laurie's "Comenius."

JOHN AMOS COMENIUS (Komenski) was born in or near Nivnitz, a village of Moravia,* on the 28th of March, 1592. His father was a miller, belonging with his family to a sect of Christians known as the Moravian Brethren, who, altho generally recognized as Lutherans, connect themselves by direct ecclesiastical descent with the Bohemian Reformer Huss, and have always preserved a distinct organization of their own. The chief characteristic of this sect seems always to have been a certain simplicity of faith, combined with an earnest personal piety and a practical realization of the brotherly relation in which all the members of a common Christian Confession ought to stand to one another.

The young Comenius was born in troublous times. The European disturbances and complications arising out of the advance which the thought of man had made in the fifteenth and sixteenth centuries had already been in active operation for seventy years, and Comenius was growing old when the close of the Thirty Years' War gave Europe peace, after having made a great part of it a desert. Austria was at that time the great German power. Prussia had no political existence, while Poland was a large and influential kingdom, including much of what is now Russia.

Comenius's parents died while he was still a child, and he was handed over to guardians. There appears to have been a little money left by the father—enough to help in the education and maintenance of the son. He received, however, only the limited amount of instruction obtainable in one of the elementary people's schools which were the fruit of the Reformation. This amounted to reading, writing, a knowledge of the Catechism, and of the smallest beginnings of arithmetic. It was not till his sixteenth year that he began to feel and to show a desire for the life of a scholar. Then he entered upon the study of Latin—at that time still the indispensable instrument of all literature, and of international communication among the learned.

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* Some say at Comna or Comnia (near Brünn, whence the surname Commenius or Comenius.) The family name was in German *Topfer*, *i. e.* Potter. Gindely simply says in the vicinity of Ungarisch-Brod. At the University of Heidelberg he was entered as a native of Nivnitz, a little village near Ungarisch-Brod.

There was probably an advantage in this. Unvisited by ambitions which could carry him beyond the narrow limits of his own quiet community, his mind must have had time slowly and surely to imbibe the teachings of the simple Brotherhood to which he belonged, and to be thoroly imbued with their earnest spirit. We see the effects of this upbringing conspicuous thruout his whole life. Simplicity, zeal, piety, self-sacrifice, humility, are always present. The whole tenor of his life confirms his own confession that he was by nature of a retiring disposition, had more of fear than of hope in his constitution, that the part of innovator was one alien to him, and that he was keenly alive to the fact that those who think they have got some new light are often merely pursuing *ignes fatui*. "Nor yet," he adds, "do I desire to belong to that class of men who cling to the old and the customary, spite of the indications of God Himself, Reason, and Common Sense."

At sixteen Comenius was sent to a Latin school, and in 1612, when he was twenty years of age, we find him at the College of Herborn in the dukedom of Nassau, pursuing theological studies. To the lateness of the age at which he began Latin we probably partly owe Comenius's early insight into the defects of educational methods. He was old enough to criticise, while submitting to, the scholastic discipline and defective modes of procedure, of which he was, with others, the victim. There is no reason to believe that his school was worse than schools elsewhere at that time, and of these he says that "they are the terror of boys, and the slaughter-houses of minds,—places where a hatred of literature and books is contracted, where ten or more years are spent in learning what might be acquired in one, where what ought to be poured in gently is violently forced in and beaten in, where what ought to be put clearly and perspicuously is presented in a confused and intricate way, as if it were a collection of puzzles,—places where minds are fed on words."

In 1612, when Comenius was still at Herborn, when he learned of Ratich's scheme of educational reform, he was profoundly attracted by the new educational movement.

After a year or more spent in travel, during which he resided at Amsterdam and studied at Heidelberg, Comenius returned to his native Moravia in 1614. Being appointed Rector of the Moravian school at Prerau, he at once endeavored to introduce improved methods of instruction and a more humane discipline. He began by simplifying the Latin Grammar, and wrote an elementary book for his pupils, which was afterwards published at Prague in 1616.

In 1618 he was set over "the most flourishing of churches of the Moravian Brethren, that of Fulneck," near Troppau. Along with his ministerial charge, he had the superintendence of a school recently erected; and he now began to consider more fully the subject of instruction, and to put his thoughts on paper. Here too he married, and for two or three years spent a happy and active life, enjoying the only period of tranquillity in his native country which it was ever his fortune to experience. For the restoration of a time so happy he never ceased to pine during all his future wanderings.

The Thirty Years' War broke out, and in 1621 Fulneck was taken by the Spaniards, and all the property of Comenius destroyed, including his library and manuscripts.* For the next three years Comenius seems to have resided, along with several other Moravian pastors, under the protection of Karl von Zerotin, a wealthy Moravian, and while there wrote a book entitled *The Labyrinth of the World and the Paradise of the Heart*, an allegorical writing on the vanity of earthly things. In 1624 he and his fellow-pastors were compelled to leave the protection of Zerotin, and in 1627 were formally proscribed by the Austrian Government. Some took refuge among the Bohemian mountains with Baron Sadouski von Slaupna. To one of the pastors who took refuge there—John Stadius by name—the Baron intrusted his three sons for their education. For the benefit of the tutor, and at his request, Comenius wrote some rules of method. When it became impossible longer to continue in his concealment, Comenius made for Poland and obtained employment as a teacher in the Moravian Gymnasium at Lesna (Lissa). His scholastic engagements, and the desire to do his duty in an efficient way, gave a fresh impulse to his didactic studies. He began to reconstruct his methods from the foundation, and to give them a philosophic basis and a logical coherence.

Latin was at that time the one key to universal learning. To give to boys the possession of this key was all that teachers aimed at until their pupils were old enough to study rhetoric and logic.

Comenius was acquainted with almost all previous writers on education, except probably Ascham and Mulcaster, to whom he never alludes. He read everything that he could hear of with a view to find a method, and he does not appear ever to have been desirous to supersede the work of others. He also wrote to all the distinguished men to whom he could obtain access. He addressed Ratich, among others, but received no answer. His mind became now much agitated by the importance of the question and by the excitement of discovery. He saw his whole scheme assuming shape under his pen and was filled, like other zealous men, before and since, with the highest hopes of the benefits which he would confer on the human race by his discoveries. He resolved to call his treatise *Didactica Magna*, or *Omnes omnia docendi Artificium*. He found a consolation for his misfortunes in the work of invention, and even saw the hand of Providence in the coincidence of the overthrow of schools thru persecutions and wars, and those ideas of a new method which had been vouchsafed to him, and which he was elaborating. Everything might now be begun anew, and untrammeled by the errors and prejudices of the past.

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*Seyffart says that on this occasion Comenius also lost his wife and two children.

His deepest conviction was that the sole hope of healing the dissensions of both Church and State lay in the proper education of youth.

When he had completed his *Great Didactic*, he did not publish it, for he was still hoping to be restored to his native Moravia, where he proposed to execute all his philanthropic schemes; indeed, the treatise was first written in his native Sclav or Czech tongue.*

In addition to the defects already universally recognized in the teaching of Latin, Comenius pointed out that, even supposing the usual classical authors were read and mastered, a boy would not then know the Latin words expressing the things and ideas of his own time. "Finally, if so much time is to be spent on the language alone," he says, "when is the boy to know about things—when will he learn philosophy, when religion, and so forth? He will consume his life in preparing for life." Some epitome of the language is wanted, in which the words and phrases will be reduced to one body, as it were, and in this way much time be saved in acquiring them. For, as Isaac Habrecht truly said, one would learn to know all the animals of the world more quickly by visiting Noah's ark than by traversing the world and picking up knowledge as we went.

To meet this want, a member of the Irish College of Salamanaca (Bateus by name) had written a *Janua Linguarum*, comprising in one lesson-book all the more usual words, and these connected into sentences so constructed that no vocable occurred more than once, except such indispensable words as *sum*, *et*, *in*, etc. This book was in Latin-Spanish, and was shortly after, in 1615, published in Latin-English in London. The work was frequently republished, was introduced into many schools, and ultimately, in 1629, appeared in eight languages.

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* Found in the archives of Lissa in 1841, and republished in its Czech form in 1849 by a Bohemian Society.

At first Comenius hailed this book with pleasure but after carefully studying it, came to the conclusion that it did not justify its title; and this, *first,* because it contained many words beyond the capacity of the young, while omitting many in daily use; *secondly,* because the words, which were used only once, were used in one signification only, whereas they constantly, in native authors, have more than one meaning, and thus pupils are misled; and *thirdly,* because, where one signification is alone given, it ought always to be the primary one, which in the book in question was not the case. There were other objections to the book: the sentences did not contribute to the moral instruction of youth, and were clumsy; and, indeed, even often destitute of meaning.

"My fundamental principle—an irrefragable law of didactics—is," he says, in speaking of his own *Janua,* "that the understanding and the tongue should advance in parallel lines always. The human being tends to utter what he apprehends. If he does not apprehend the words he uses, he is a parrot; if he apprehends without words, he is a dumb statue. Accordingly, under 100 heads, I have classified the whole universe of things in a manner suited to the capacity of boys, and I have given the corresponding language."

Three years were spent on the *Janua* alone, and yet Comenius was far from thinking the work perfect; he considered he had only led the way for others. He hoped also himself, from time to time, to improve the book. He called it a "Seminary of tongues and all Sciences," because equal care had been given to *things* and *words.* He desired to introduce some beginnings and clear perception of things, and at the same time to lay the foundations of learning, morals, and piety. Speaking generally, we may say that Comenius's aim was—*first,* to simplify and graduate; *secondly,* to teach words thru things; *thirdly,* to teach things thru words.

The book was a very remarkable innovation on the then existing school text-books; but notwithstanding this, or because of it, when he published it in 1631, at the urgent solicitation of his friends, and before, in his opinion, it was perfected, it achieved an immediate and enormous success. "People," he says, "seemed to vie with one another in producing editions of it." It was translated into Greek, Bohemian, Polish, German, Swedish, Belgian, English, French, Spanish, Italian, Hungarian, Turkish, Arabic, and into a language which he calls Mogolic, "and which," he says, "was familiar to the population of India." He next, in 1633, published his *Vestibulum*, which was intended to serve as an easy introduction to the *Janua*.

In 1632 there was convened a synod of the Moravian Brethren at Lissa, at which Comenius (now forty years of age), was elected to succeed his father-in-law, Cyrillus, as bishop of the scattered brethren. Thruout the whole of his long life he continued his fatherly charge, and seemed never quite to abandon the hope of being restored, along with his fellow-exiles, to his native land—a hope doomed to disappointment.

Meanwhile his great Didactic treatise, which had been written in his native Czech tongue, was yet unpublished. He was, it would appear, stimulated to the publication of it by an invitation he received in 1638, from the authorities in Sweden, to visit their country and undertake the reformation of their schools. He replied that he was unwilling to undertake a task at once so onerous and so invidious, but that he would gladly give the benefit of his advice to any one of their own nation whom they might select for the duty. These communications led him to resume his labor on the great Didactic, and to translate it into Latin, in which form it finally appeared.

In education Comenius was a Sense-Realist—the first great and thoroly consistent Realist. Von Raumer says "He received his first impulse in this direction, as he himself relates, from the well-known Spanish pedagog, Ludovic Vives, who declared himself against Aristotle, and demanded a Christian instead of a heathen mode of philosophizing." "It is not disputation which leads to any result," said Vives, "but the silent observation of nature. It is better for the scholars to ask questions and to investigate than to be disputing with each other." "Yet," says Comenius, "Vives understood better where the fault lay than what was the remedy."

Comenius received a second impulse from Thomas Campanella, who, however, did not satisfy him. "But when," he says, "Bacon's *Instauratio Magna* came into my hands—a wonderful work, which I consider the most instructive philosophical work of the century now beginning—I saw in it that Campanella's demonstrations are wanting in that thoroness which is demanded by the truth of things. Yet again I was troubled because the noble Verulam, while giving the true key of Nature, did not unlock her secrets, but only showed, by a few examples, how they should be unlocked, and left the rest to future observations to be extended thru centuries." He goes on, in the preface to the *Physics*, from which these utterances are taken, to say that he is convinced that it is not Aristotle who must be master of philosophy for Christians, but that philosophy must be studied fully according to the leading of sense, reason, and books. "For," he continues, "do *we* not dwell in the garden of Nature as well as the ancients? Why should we not use our eyes, ears, and noses as well as they? And why should we need other teachers than these our senses to learn to know the works of Nature? Why, say I, should we not, instead of these dead books, lay open the living book of Nature, in which there is much more to contemplate than any one person can ever relate, and the contemplation of which brings much more of pleasure, as well as of profit?" It is this realism which explains his school-books and also his method.

It was natural that the strong realistic impulse should travel beyond the sphere of schools, and cause men to dream of great things. The *Advancement of Learning* had filled Comenius, as well as other contemporary men, with hopes of a rapid and unparalleled progress in all the sciences, and a consequent improvement of the conditions of human life. With a view to a thoro co-ordination and universal diffusion of scientific knowledge, he contemplated the issuing of a complete body of science as then understood. To effect this, the combination of many minds, each in its own department, and all under the guidance of some controlling intellect, was necessary. Men were working in various parts of Europe independently of each other, and, the younger men especially, in ignorance of what had been actually accomplished in the sciences to which they devoted themselves. An exhaustive but concise and authoritative statement of all that was known in each department could not fail to be of immense service, and, as Comenius thought, for his mind was always practical, of great influence on the progress and well-being of society. This complete statement of the circle of knowledge he called *Pansophia*, and it was in this direction that his real life-work lay, in his own opinion; his scholastic undertakings being strictly subordinate to the greater task.

Altho not prepared to give effect to his views in proper form, he had been working at the Pansophy in the retirement of his study during the years which saw the completion of the first edition of his *Janua* and of his *Great Didactic*. He had also, by correspondence, interested various learned men in his encyclopædic or pansophic scheme; among others, Samuel Hartlib,* the friend

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*"Everybody knew Hartlib," says Professor Masson in his *Life of Milton*. "He was a foreigner by birth, being the son of a Polish merchant of German extraction, who had left Poland when that country fell under Jesuit rule, and settled in Elbing in Prussia in very good circumstances. Twice married before to Polish ladies, this merchant had married in Prussia, for his third wife, the daughter of a weal-

of Milton, who was then resident in London, and to whom Milton addressed his Tractate on Education.

Hartlib was not slow to be interested in the educational ideas of Comenius, but he was especially inspired by the two leading projects of the time—the Union of Protestant Christendom, and, by help of this, the settlement of nations; and the union of the sciences in a complete encyclopædic form. Comenius, at his request, had sent him a long epistle, setting forth in full his Pansophic project, and this epistle was printed at Oxford in 1637, without Comenius's consent, and widely circulated. The treatise was called by Hartlib *Porta Sapientiae reserata.* It is entitled by Comenius in the List of Contents of his Collected Works, *Prodromus Pansophiae* (Precursor of Pansophy).

These treatises excited much interest thruout Europe. Adolph Tassius, professor of mathematics at Hamburg, wrote to Hartlib, saying: "A philosophic ardor flames in every corner of Europe, and with it zeal for a better Didactic. If Comenius had done nothing more than scatter such fruitful seeds in the minds of all, he would have done enough."

The reception accorded to the Pansophic ideas of Comenius was encouraging enough, but it was apparent to all, and to none more than Comenius, that they could be carried out only by a community or college of learned men, and that this college would have to be a permanent institution for the furtherance of science, and for the authoritative promulgation from time to time of the scientific *status quo.* A Collegium Didacticum or Pansophicum was accordingly projected and for this money was wanted, and also influential support.

At the urgent solicitation of the sanguine Hartlib, who had been

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thy English merchant of Dantzic; and thus our Hartlib, their son, tho Prussian born, and with Polish connections, could reckon himself half-English. The date of his birth was probably about the begining of the century, *i. e.* he may have been eight or ten years older than Milton. He appears to have first visited England in or about 1628, and from that time, tho he made frequent journeys to the Continent, London had been his headquarters. Here, with a residence in the City, he had carried on business as a 'merchant,' with extensive foreign correspondences and very respectable family connections. But it did not require such family connections to make Hartlib at home in English society. The character of the man would have made him at home anywhere. He was one of those persons now styled 'philanthropists,' or 'friends of progress,' who take an interest in every question or project of their time promising social improvement, have always some iron in the fire, are constantly forming committees or writing letters to persons of influence, and altogether live for the public. By the common consent of all who have explored the intellectual and social history of England in the seventeenth century, he is one of the most interesting and memorable figures of that whole period. He is interesting both for what he did himself, and also on account of the number and intimacy of his contacts with other interesting people.'

busying himself among members of the Long Parliament, Comenius repaired to London, which he reached in September, 1641. There he found that he had been invited by Parliament itself; but as it was prorogued for a few months owing to King Charles's absence in Scotland, he had to wait. He employed his time well in expounding his view to various people of influence, and on the reassembling of Parliament he was asked to wait a little longer, until a commission of learned men could be appointed to inquire into his proposals. Parliament even went so far as to propose to set apart the revenues and buildings of a college in London, or Winchester, or Chelsea, to which men might be called from various parts of the world, and maintained in residence while prosecuting their learned researches, and giving effect to Comenius's great Pansophic scheme. A statement of the revenues of Chelsea college was even placed in Comenius's hands, and he now began to entertain lively expectations that ere long the ideas of the great Verulam would be realized, and a "universal college opened, solely devoted to the advancement of the sciences." The general unsettlement of affairs, aggravated by the Irish rebellion and the massacre of the Protestants, did not admit, however, of the carrying out of any peaceful project. The country was on the eve of a rebellion, and the leaders in Parliament could scarcely be expected to find time for any save the greatest national and political affairs. Everything was in confusion, and Comenius, deeply disappointed, prepared to return to the Continent.

It was precisely at this moment that he received, from a correspondent and admirer in Sweden, a letter which led him to change his plans. The name of this friend, who plays an important part in Comenius's future life, was Ludovic de Geer, a man of noble family, of considerable wealth, and happily, also of an enlightened and progressive mind. He was a Dutchman settled in Sweden. He assured Comenius that his personal influence would enable him to promote his views in Sweden (at that time ruled by Christina and the famous Chancellor Oxenstiern), and that he could secure the co-operation of others. In accepting this invitation, Comenius had the approval of his English friends, but as De Geer had evidently in view the Didactic rather than the Pansophic innovations of Comenius, they protested by anticipation against his being drawn aside from what they considered to be the larger aim to the more restricted subject of school-books.

University of Edinburgh. S. S. LAURIE.

(To be concluded next month.)

HISTORY OF GREEK ART.

Greek Art.—First Period.

Adapted by Francis C. Turner, from Goepel's History of Art.

THE difference between the changeless perfection and solemn calm of the later Egyptian statues [and Oriental art generally], and the lifelike movement of the Greek is very striking. In the later Egyptian Empire sculpture was purely architectural, the statue formed an essential part of the temple and corresponded to it in majestic dignity; all movement, all individuality, was sternly excluded, and a rigid canon of form and proportion was imposed upon the sculptor. In Greece, on the contrary, the statue was from the first independent; the artist strove, with ever growing power, to be true to nature, to represent the human form realistically, to show it as he saw it, in all the fulness of life and motion.

Hence, while the Egyptian art settled down into uniformity, the Greek grew and developed with surprising rapidity from the earliest times to the days when Pheidias created his glorious Athene and his majestic Zeus, and Praxiteles produced his noble Hermes and his lovely Aphrodite. The contrast is marked in this, that in speaking of the Greek work we at once think of the artist who created it; but no one asks the name of the sculptor of the sphinx, or seeks to identify the individual to whom we owe the statue of Memnon.

It is with a feeling of familiarity that we approach the land of Hellas: Hindostan, Assyria, Egypt are nations which must remain strange and mysterious to us: their life and history are almost lost in the dim obscurity of the past; and tho we may be able thru the patient investigations of oriental scholars to become acquainted with many facts in their history and many details of their daily life, their life and thought are so far removed from ours that it is impossible to feel that sympathy and human fellowship with them that we feel with the heroes who assembled on the plains of Troy, with the politicians who debated in the Athenian Ecclesia, or with the philosophers who lectured in the academic groves.

The features of the landscape are familiar to all our minds, literature and art have made them ours with their mythical and historical associations. The rugged Mount Olympus, which rising precipitously by the sea and forming an outwork of the wild chain of Pindus, lifts its snowclad marble summit above the green hills, fringed with olive and myrtle groves. From it Zeus sends forth his thunder, and Hermes and Athene descend to shower blessings on the favored children of men. At the foot of this majestic mountain gentle nymphs send silver brooks babbling down to the river Peneius, while the Hamadryads build him bowers of laurels and plantains, and the goddess Chloris decks the lovely valley with bright flowering creepers.

Across the sea to the east, we see the steep dark sides of Mount Athos rising sheer out of the water beyond the limits of the Salonic Gulf. This narrow gorge of Tempe is the only passage into the rich Thessalian plain; and as we look at its sheer sides, so close that they hardly leave room for the river to flow between, we realize how grand are the fortifications with which nature has guarded Hellas. The vale of Tempe forms indeed the only outlet: on the north lies Olympus, to the west the main range of Pindus, and towards the sea Pelion and Ossa form an impenetrable bulwark.

Passing to the south of the plain we come to the double line of defences which branch off from Pindus to the westward—Orthrys, the southern boundary of Thessaly, and Aeta, the northern boundary of Central Greece. The only passage southwards is by the narrow pass of Thermopylae between Mount Aeta and the sea. The monuments which marked this world-renowned scene of Spartan heroism have perished; no trace can be seen of the lion which stood on the spot where Leonidas fell, but the epitaph by Simonides still lives:

> "Go tell the Spartans, thou that passest by,
> That here obedient to their laws we lie."

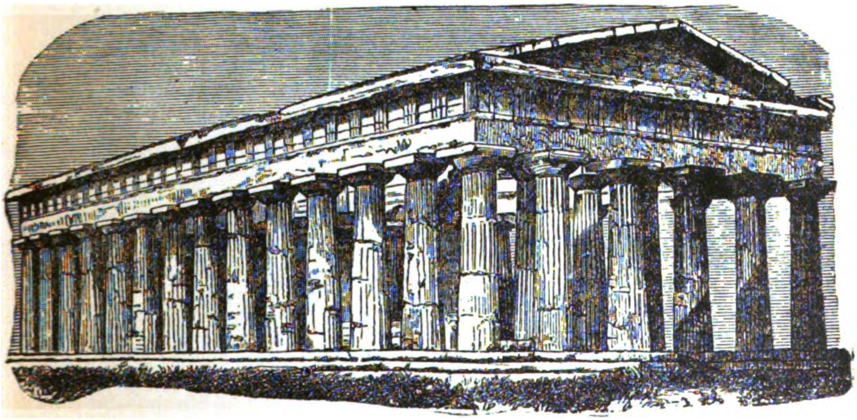
These mountains on the north, and the range of Parnassus and the purple hills of flowery Hymettus on the south completely enclose the fertile land of Bœotia.

Close beneath Mount Parnassus lies the site of the Temple of Apollo at Delphi, the center of the Hellenic world, the oracle which exercised so extraordinary an influence over the fate of Hellas. From this point we descend to the levels of the isthmus at the south end of which stands Corinth, the natural, tho never the political capital of Greece. Immediately to the south of Corinth rise the Onean hills, which form a barrier guarding the entrance to the Peloponnesus. The central lands of Arcadia are entirely enclosed by mountains except for a narrow opening on the west thru which the Alpheus escapes to the sea; from the Arcadian mountains, other ranges branch out in all directions enclosing and separating the plains of Argolis, Laconia, Messenia, Elis, and Achæa.

Thus we find that the land of Hellas is by nature divided into a number of small fertile plains separated by lofty mountains, the most impassable of barriers. One high road only is open to them —the sea, to which the broken coast-line gives easy access and affords countless harbors. Thus nature herself laid the foundation of those numerous independent states which form the most striking feature of ancient Greece, and made their peoples into hardy sailors and mountaineers, free, adventurous and impressionable.

The sea did not form a boundary; but was rather a high road by which men passed to and fro between the islands and the cities of the Asiatic coast, all of which formed essential parts of Hellas.

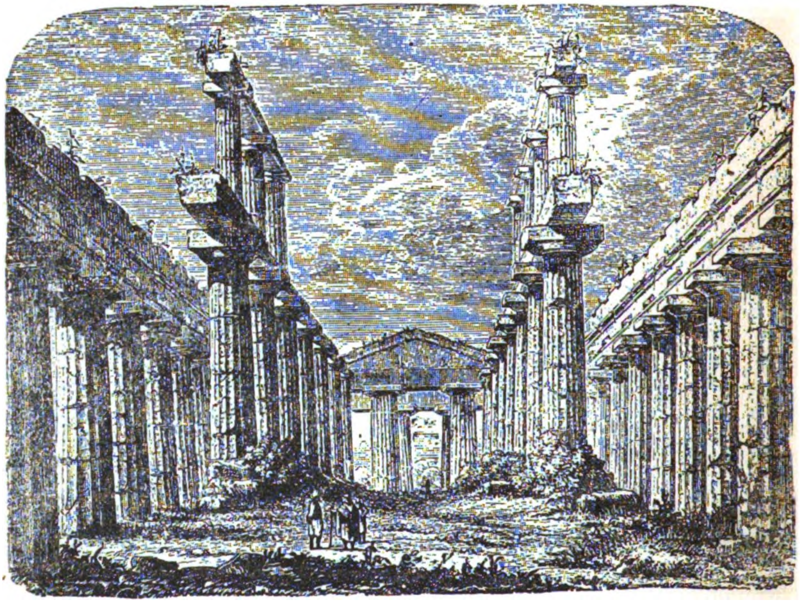
As we sail across from Egypt we soon see in the distance the long island of Crete, and the snowclad summits of Mount Ida, and we pass back in thought to the old days when King Minos ruled here; we think of the Minotaur and his human victims, of the exploits of Theseus and the desertion of Ariadne. On passing Crete we find ourselves in the Hellenic waters of the Ægean; far away on our left we see the purple rocks, white peaks, and deep bays of the Peloponnesus, the steep and barren promontory of Cape Malea, that stormy point to pass which seemed to the Athenian sailor a bold and perilous adventure. On our right we pass the volcanic peaks of Thera, and then run close by Melos, a name associated of old with the worst deeds of Athenian tyranny, but now forevermore bound up with the most beautiful example of Athenian art, that



Temple of Poseidon, at Pæstum.

perfect type of womanly beauty and majesty, the Venus found in that island forty years ago.

Before us the deep bay of Argos lies open, and beyond its head we see the broken line of the Arcadian mountains, and we picture to ourselves the fair Danaë and her babe Perseus floating down these blue waters in her frail craft, to find a refuge from her cruel father in the rocky isle of Seriphos. Beyond this we see the countless islands of the Archipelago, Paros and Naxos, and the sacred isle of Phœbus, all fraught with memories of the beautiful legends of the gods and heroes and the stirring events of history.



Interior of Temple of Poseidon, Pæstum.

Our ship now turns to enter the Saronic Gulf, and on our right rises a lofty rocky promontory, " Sunium's marbled steep," on whose summit the white columns of the Doric temple of Poseidon still, as of old, stand out against the sky, and as the sun lights them, welcome home the Athenian sailor on his return from his distant voyage. Far away from the southern sea this magnificent landmark is visible, and tho earthquakes have thrown down many of its columns it still looks much as it must have done of old.

We pass Ægina, and run straight for the isle of " seaborn

Salamis," but see no sign of harbor till turning sharply to the right we suddenly find ourselves in the narrow entrance of the Peiræus. That narrow sea which separates the rocky isle from the precipitous shore was the scene of one of the most memorable achievements of Hellenic patriotism. On the lofty point of Mount Ægaleos close to the Peiræus, Xerxes had placed his throne to witness the destruction of the combined fleets of the chief Hellenic states by his vast navy.

"A king sate on the rocky brow
That looks o'er seaborn Salamis;
And ships by thousands lay below,
And men in nations—all were his!
He counted them at break of day—
And when the sun set where were they?"

This little body of men, not naturally brave—for personal courage and contempt of danger has never in ancient or modern times characterized the Greek—but inspired to heroic deeds by their ardent patriotism, had crushed the power of the Persian monarch. Within sight of this memorable spot we land on Hellenic soil.

At Athens we find the highest achievements of Greek genius; it is the center of the Hellenic race. Greek civilization settled round the Ægean: the Doric branch on the western side, in Hellas; the Ionic on the eastern, in Asia; Athens by its natural position seemed destined to become the point of union of the two races, and, therefore, the scene of their highest development. The ancient legend of the return of the Heracleidæ, and the consequent migration of the Ionic race eastward; the tales of the Argonautic voyage, and of the ten years' siege at Troy, are all evidence of the intercourse between Europe and Asia, and are at least historical in giving a correct distribution of the two main races.

The Homeric poems form the earliest record to which we can appeal for evidence as to the beginning of Greek art, and it is remarkable that tho these poems give proof of a very high intellectual development, they show a condition of art far below that of Egypt or Asia. The Greek of Homer's time had not yet learned to make images of the gods, nor to build columned temples in their honor.

The palaces of the Homeric kings were of the simplest kind, and seem to have resembled the primitive Aryan homestead. The whole arrangement is described when Ulysses returns to his home in Ithaca: the buildings surround a court-yard—or rather farm-yard, for at the gate of it, Argus, the faithful old watch-dog, lay dying on the dung-hill when his master entered. A gate led from this to the inner court, on one side of which lay the men's and on the other the women's chambers, while the third side was occupied by the hall. The buildings were apparently of the most primitive kind; the ceiling was supported by upright beams of wood blackened with smoke: the cross horizontal beams rested on the wall, and the spaces between them were probably left open for the admission of light and air,—spaces which correspond with the metopes in Doric architecture. There was no attempt at an inner ceiling to conceal the structure of the roof, for we read of Epicaste being hanged upon a ceiling beam. The walls were no doubt covered with thin plates of polished metal, as we are told was the case with the palace of Menelaus.

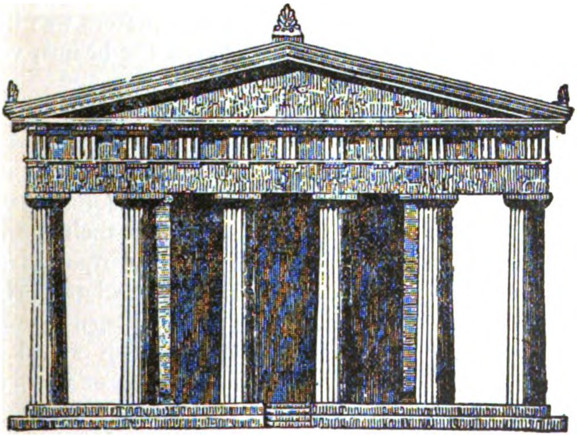
Isolated in the court stood the circular thesauron or treasure house, in which the gold lay piled upon the floor and the rich garments were stored in niches. The building seems to have resembled that puzzling monument of antiquity, the Treasury of Atreus at Mycenæ. That the latter was a tomb rather than a treasury is probably true; but at least its circular dome rising from the floor to a pointed apex, and its entrance passage show us the sort of construction employed in early days. The building is not a true vault, that is to say it is not constructed with voussoirs, but, like those of Egypt, it is composed of horizontal courses of masonry the faces of which have been shaped after they were in position. The doorway, which has been skilfully restored, is remarkable for the engaged columns tapering from summit to base and adorned with zigzag and spiral ornament, as well as for the triangular slab surmounting the lintel.

The Lion Gate, Mycenæ.

Wall of Polygonal Stones, Mycenæ.

A still more interesting monument at Mycenæ is the Cyclopean wall with the famous Lion Gate. The gate consists of two upright jambs and a lintel laid across them: the jambs slope inwards; but still the span is ten feet, and the massive walls could not be continued across it without too great strain in the lintel. The triangular slab is consequently introduced to relieve the pressure, and affords scope for ornamentation. Possibly the sculpture upon it was also intended to divert by sacred symbolism attacks from this weak point in the defensive structure. The lions stand facing one another with their fore-feet raised, and are separated by a column of similar form to those we saw at the door of the Treasury of Atreus; the heads were turned to the front, and as they were separate pieces they are now lost. The attitude and form remind us of Assyrian work. These remains at Mycenæ have great interest, because the city was in ruins all thru the historical period.

The customary Doric building had, as we have already seen, a gabled roof of low pitch. The flat stone ceiling of the Egyptian temple was well suited to ward off the fierce heat of the sun beneath a rainless sky. In Greece, however, heavy rains were usual at certain seasons of the year, and some slope was therefore required, tho not so great as is needed to afford protection against the snows of more northern climes. The pine forests which clad the mountain slopes afforded the Greek the most natural and convenient material.



Theseus Temple in Athens.

It results, therefore, that the structure of even the most advanced and perfect Greek temples shows everywhere forms and ornamentation clearly representing an original timber construction.

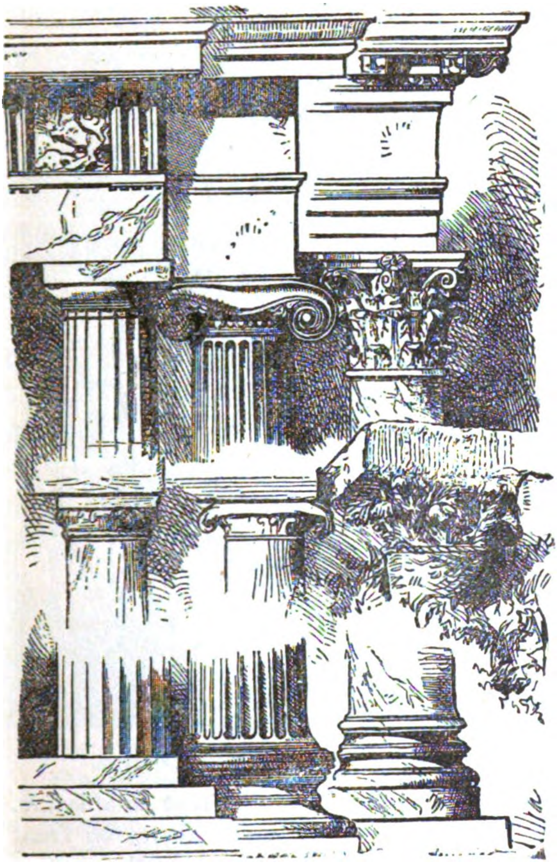
Originally each beam united a pair of rafters: on the horizontal timbers boards were laid which concealed the inclined roof, and formed the coffers, the developed form of which may be seen in the ceiling of the Parthenon. The ends of the horizontal beams, as well as of the rafters, were visible from without; the latter projected beyond the wall and formed eaves, which protected the walls of the building from the water.

As the spaces between the beams were covered by the eaves they required nothing to close them, and were left open to admit light and air. The rough-hewn ends of the beams were finished off and protected by three narrow vertical strips of wood, the chamfering of which at once gave rise to the triglyph, the universal decoration of the beam ends. The upper ends of these strips touched the rafters, the lower were covered with a continuous board. This continuous strip was securely and visibly fastened by large trunnels. The rafter ends were also finished off and brought into harmony with the frieze.

The boards covering the underside of the eaves required very distinct attachment, and the nail heads by which this was effected were called in later architecture guttæ, tho from their position it is obvious that they could not have been intended to represent drops of water. The triangle formed by the end rafters was boarded up, and in this as well as in the spaces between the beams, votive offerings were placed.

We see then that the entablature developed before the column: the shaft, which to our ideas is an essential part of the order, appears to have been a later addition. There is no indication in Homer of the existence of external columns; the attached columns of Mycenæ, too, are very far removed from the Doric shaft; their roundness indicates a wooden original, and the spiral ornament upon them suggests a metal sheathing. How and when the Doric column originated we have no means of ascertaining: it may have been developed independently from the rectangular support which would be left by making openings in the wall at short distances, or it may be traced back to an Egyptian origin. The latter is the more probable supposition, for we have found the Doric shaft with its tapering form and channelings at the entrance to the caves of Beni-Hassan a thousand years before. But if the Greeks adopted the column from Egypt, they made it their own by observing and amending its faults. The shafts at Beni-Hassan spring immediately from the ground, and are separated only by thin rectangular abacus from the horizontal beam; they are without end or beginning. The introduction of the echinus served excellently to break the contrast; the expanding curve formed a transition from the shaft to the broader lintel as well as from the vertical to the horizontal.

If we suppose that the Doric column was imported from Egypt, it is probable that it was first employed as we find it employed at Beni-Hassan, where two columns fill up the front opening between the prolonged side walls; the form of temple known as *In Antis.* The next step was, that a corner column took the place of these side walls, and the temple was then called *Prostyle.* The substitution of columns for the front wall necessitated the erection of another wall, in front of the cella or sanctuary; so that the temple was divided into two, the temple itself as *Naos*, and the portico or *Pronaos.* The abolition of the wall involved the addition

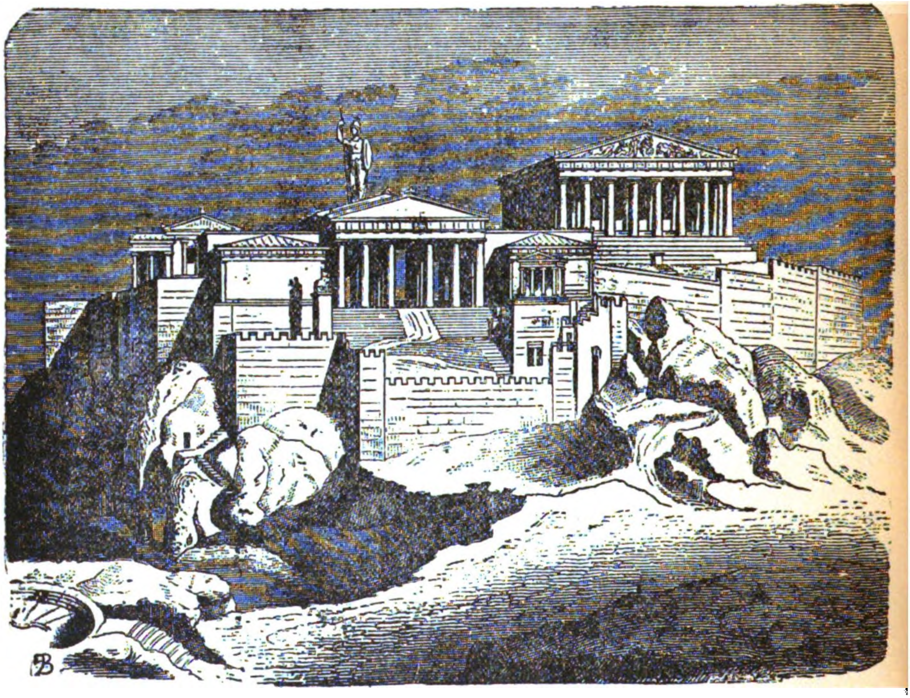


Doric Column from the Parthenon. Ionic Column. Corinthian Column. from the Pantheon.

Orders of Columns.

of a new part to the entablature to support the beams of the ceiling: this was called the *Epistyle.*

The width of the temple was the large dimension of the pronaos, and hence a change was introduced by placing the beams from the columns to the new front wall of the naos. This had an important architectural effect in that it gave alternating beam ends and metopes above the epistyle in the front entablature. Thus the metopes and triglyphs would alternate along the front and along that part of the side which corresponded with the naos, while at the side of the pronaos would be a continuous beam. The temptation to symmetry led to the continuation of the same ornament where there were, and could be, no beam ends.

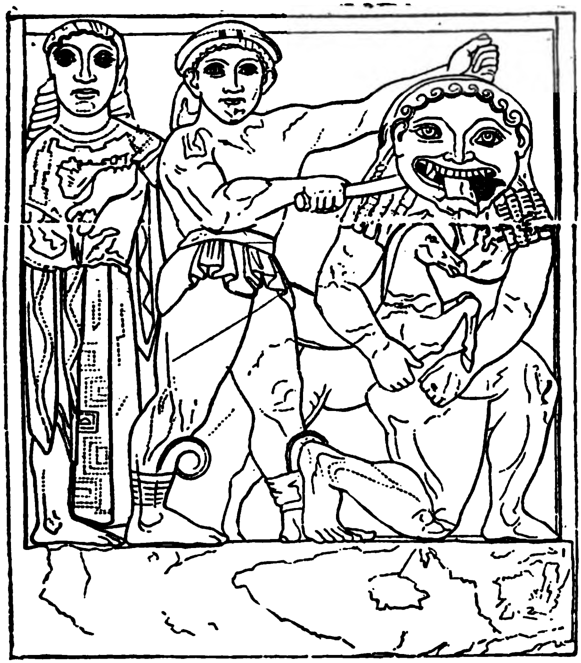


The Acropolis at Athens Restored.

When, for the sake of getting rid of the ugly blank wall at the back, a portico similar to that in front was added behind and metope and triglyph made continuous all round, the temple became *Amphiprostyle.*

The final step was to change side walls into columns, and make the entablature an independent ornament; thus the ultimate enduring form of Greek temple was reached, the cella entirely surrounded by columns—the *Peripteros.*

This form once attained came to be considered the only admissible form for important temples unless peculiarities of site necessitated modification: the prostyle and amphiprostyle forms were only used for secondary temples. The adoption of a stone construction thruout the visible portions of the building involved still further changes: the columns were increased in thickness and brought nearer together, until the intercolumniations little exceeded the basal diameter of the columns. Then as the cornice had only about half the height of the epistyle it could not bear the same span, and an additional triglyph was consequently introduced over each intercolumniation, whereby the metopes were reduced to a size about the same as the triglyphs themselves. Finally, as in the peripteros the metopes were no longer required as windows, an additional decorative effect was gained by filling these with thin slabs, which were decorated, first with dark colors, and later with reliefs on a dark ground. A difficulty arose in regard



Perseus and Medusa, Metope of Selinunt.

to the corner; the metope was not properly a support, and was therefore out of place at the corner; it became necessary, therefore, to push the triglyph from over the corner column right to the end of the entablature, and then either leave a larger metope or equalize the metopes by reducing the last intercolumniation.

But such a rough account as this of the history of the peripteral temple does no justice to the extraordinary delicacy of perception with which the Greek architects corrected every real or apparent want of grace in form and line. They observed that if the columns were conical, that is, if the line on the surface from base to summit were straight, the columns would have the appearance of being slightly concave: hence they gave it just sufficient swelling (*entasis*) to correct this optical effect. Again, a straight horizontal beam if seen from below appears to fall in the middle: a counteracting curve was therefore given to it. For a similar reason the axes of the columns are not exactly vertical, they have an inclination inward. In fact, Mr. Penrose found, in measuring the Parthenon, that nowhere had it straight lines or regular figures, but that every deviation from regularity must have been calculated and executed with the utmost delicacy.

The lighting of the cella of a peripteral temple has been a difficulty which has greatly exercised architects and archæologists. Some have asserted that there was a hypæthron or unroofed opening in the center, others that it was fully roofed over, and could have received no light except thru the door; while a third party, which has the weight of Mr. Fergusson's authority, maintain that it was lighted by a system corresponding to the Gothic clerestory, the prototype of which we found in the roof of the temple of Karnak. The first hypothesis is now generally acknowledged to be inadmissible; the second seems absurd when we remember that the cella was very long and narrow, and was generally prostylous or amphiprostylous, and at the same time bear in mind that the famous chryselephantine statue of Athene and other beautiful statues of the gods stood at the far end of the cella. There is very little direct evidence to support the third hypothesis; but the fact that the clerestory was known in Egypt is of itself of weight; if they knew of such excellent artifice, the Greek architects would hardly be likely to neglect it. In most Greek temples the cella was divided by two rows of columns into a nave and two aisles, and it is at least possible that these pillars supported the flat roof of the aisles and another smaller order above this supported the roof of the nave.

(To be continued.)

TEACHERS' EXAMINATIONS.

The questions given in this department have been selected from papers used at recent teachers' examinations in several states. The answers are necessarily suggestive rather than final, tho their accuracy can be depended upon as far as they go.

State Board Examination for Indiana.

(Questions and answers for state examination held in April, 1903.)

THEORY AND PRACTICE OF TEACHING.

1. Should anything more be done by a teacher in the recitation than to hear careful reproductions of what the pupils have learned from their text-books? Give reasons for your answer.

2. Discuss the use of different kinds of punishments.

3. How great an evil is the cigarette habit among school children? What must be done to counteract it?

4. Discuss the educational value of the study of English. To what extent should it be taught in connection with other subjects?

5. Give the dimensions and mode of seating and lighting of a school-room.

6. Discuss the value of the consolidation of township district schools into a central graded school.

7. To what extent is it true that a man is wise not in proportion to the number of books he has read, but in proportion to the experience he has had?

8. What would you regard as arrest of moral development, and what can be done to prevent it?

ANSWERS.

1. Much more. The teacher should see to it that pupils understand thoroly what is given in the text-book, and that they can apply it as well. The pupil, to be trained for practical life, must be taught to think, not simply have his memory trained.

2. A good rule regarding school punishments is never to threaten beforehand, but suit the punishment to the particular case. What would be severe punishment to one child another would laugh at. In general the punishments should be as few and as light as possible.

3. Cigarette smoking is one of the greatest evils rampant among school boys. Much can be done in fighting it, if the laws be sufficiently stringent. The teacher should use his influence against it: (1) by not smoking himself; (2) by instructing pupils regarding the danger of the habit; (3) by forbidding it absolutely wherever the teacher has jurisdiction.

4. The study of English is of the highest educational value in enabling the pupil to speak and write correctly, as well as to enjoy what is said and written by others. It should be taught in connection with all other subjects, tho not as an end, but incidentally.

5. The ideal school-room is 20 x 30 feet, and 12 or 13 feet in height. The aisles should be 3 feet wide, and 4 feet in front of blackboards. The arrangement of desks must depend upon the number of pupils to be accommodated. In primary rooms, narrower aisles are permissible. The room should be lighted from the left or from the left and rear. In the latter case, at least two-thirds of the light should be admitted at the left.

6. Consolidation of small schools into a central school allows: (1) more money, and so better teachers; (2) better equipment; (3) larger classes add to pupils' interest; (4) the social life is broadening.

7. A man may have read many books and know very little of what he read. What he has himself experienced he cannot forget even if he so desires. Accordingly, what a man has experienced he knows, what he has read he may or may not know.

8. Arrest of moral development is an arrest in the growth of power to see the proper bearing of matters and questions of a moral nature. It is apt to result in obstreperous or vicious behavior which punishment seems not to correct. The teacher must, by patience, love, and quiet leading, overcome the difficulty and so far as possible start into action once more the development that had ceased.

GEOGRAPHY.

1. Travel from Cape St. Roque directly west across South America, describing the general surface features of the continent.

2. Name the countries bordering the Mediterranean Sea.

3. Briefly compare the torrid, temperate and frigid zones as to their advantages for carrying on the greatest variety of occupations and hence their respective merits for the promotion of civilization.

4. Explain the difference in meaning between the British Empire and Great Britain. Name a British possession in each of the continents.

5. Name three European nations having African possessions. Locate one possession of each.

6. Locate a city of the United States which is especially noted for its flour mills. To what does it owe this industry?

7. Choose any land or water form, such as plateau, cañon, or desert, and tell how you would present its meaning to young pupils.

ANSWERS.

1. From Cape St. Roque we would cross the Brazilian plateau, and thence descend into the valley of the Amazon. We should cross several rivers, and reach the Pacific coast—after climbing and descending the Andes—near the city of Payta.

2. Spain, France, Italy, Turkey, Greece, Asia Minor, Egypt, Tripoli, Tunis, Algeria and Morocco.

3. The great heat and moisture of the tropics renders man ill-disposed to work; the frigid zone is too cold to allow work; the temperate zone is best fitted by products and climate for living and work. Work is the basis of civilization so that naturally the greatest civilizations have evolved there.

4. The "British Empire" includes all the territory under the English government. Great Britain includes England, Scotland and Wales. (2) Canada, India, British Guiana, Transvaal, Ireland, Australia.

5. France, Algiers; England, Transvaal; Germany, East Africa.

6. Minneapolis in the south-eastern part of Minnesota on the Mississippi river. To its water power and proximity to the great wheat fields.

7. To render the idea of a cañon clear to young pupils, take them out of doors after a heavy rain and find a miniature wash-out somewhat similar to a cañon. Show them, if possible, a real river and point out how it washes the soil away, thus forming and changing its own bed. Then with good pictures of a cañon, the idea can readily be comprehended.

PHYSIOLOGY AND SÇIENTIFIC TEMPERANCE.

1. What is meant by the term "antiseptic"? Name several antiseptics in general use.

2. Name the bones that encase the brain.

3. Into what main classes are the "foods" divided? Give example of each class and indicate on what basis the classification is made.

4. What immediate effect does alcohol produce on the general circulation?

5. What changes does the blood undergo in its passage thru the lungs?

6. What are lymphatic glands?

7. Describe the Eustachian tube and give its use.

8. Explain briefly the manner in which alcohol is made for commercial purposes.

ANSWERS.

1. An agent that checks fermentation or decomposition. Boiling process; chloride of lime.

2. Frontal, parietal, temporal, occipital, ethnoid and sphenoid.

3. Proteids, beans; fats, butter; carbohydrates, starch; salts, common salt; and water.

4. Stimulates the heart and thus increases the circulation.

5. It is oxygenated.

6. The nodular bodies found in the course of the lympathic vessels.

7. Connects the mouth with the middle ear. Admits air to equalize the pressure on the two sides of the tympanic membrane.

8. Alcohol is distilled from fermented saccharine and starchy substances.

LITERATURE.

1. Name three works that you consider suitable for sixth year literature work and give reasons for your selection.

2. It has been said that any one might become a person of broad culture from the study of only two books. What books would you name as these two? Give reasons for your answer.

3. What period of history does Macaulay's History of England cover? What can you say of its value as history? Of its popularity?

4. "I that rather held it better men should perish one by one,
Than that earth should stand at gaze like Joshua's moon in Ajalon."
Explain the allusion in the foregoing quotation.

5. "The mind is its own place, and in itself
Can make a heaven of hell, a hell of heaven."
From what poem is the foregoing quotation taken? Tell what you can of the author.

6. When did Jonathan Swift live? Name some of his works. What one has been most widely read?

7. Name the author of each of the following: "The Deserted Village"; "The Cotter's Saturday Night"; "The Flight of a Tartar Tribe"; "Thanatopsis"; "Compensation."

ANSWERS.

1. Robinson Crusoe, to stimulate imagination; Sir Roger de Coverley papers, for fine study of simple, descriptive English; Evangeline, for historic romance and poetical study.

2. The Bible and Shakespeare—the first for teaching religion and high ideals, history and fine writing; the second for the study of life, for vigorous style and strong English.

3. From the time of James II. thru the reign of William III. It is not to be relied upon. It is very popular, because of its delightful style.

4. The battle fought under the leadership of Joshua, with the Amorites.

5. Paradise Lost. Milton was an English writer of the Elizabethan period. Paradise Lost is considered the great English world epic. Milton wrote some excellent prose, and a number of short poems—especially L'Allegro and Il Penseroso—which are destined to live so long as English is read.

6. *a.* 1667–1745. *b.* "Gulliver's Travels" and "The Tale of a Tub" are his most famous works. *c.* "Gulliver's Travels."

7. Oliver Goldsmith. Robert Burns. Thomas de Quincey. William Cullen Bryant. Ralph Waldo Emerson.

Ohio State Examination Questions.

(Examination held in December, 1902.)

HISTORY OF EDUCATION.

1. Give an account of education in China.
2. Name the great Greek teachers and discuss the work of any one of them.
3. Name the great Roman teachers and give analysis of the teaching or work of any of them.
4. "Brilliant culture went hand in hand with deep moral degradation,"—(Painter.) Does this apply in any country to-day? At what periods of the world's history was it true? Discuss fully.
5. What has Milton contributed to education?
6. Name the leading principles of Pestalozzi. What is his greatest writing?
7. Give the outline of Compayre's History of Pedagogy.
8. Name the reformers discussed by Quick and give your estimate of the work.
9. Name the leading authors on history of education which you have read. Give some important events in the lives and writings of "The Arnolds."
10. Write a brief sketch of the late Dr. E. E. White.

ANSWERS.

1. At about six years of age the child enters school. The school is held in the temple, the school-master's home, or the home of a wealthy patron. The first years of study are devoted to reading, writing and arithmetic. This completes the education of the majority of the pupils. Discipline is rigid. There are no new methods. The practice consists in hearing what the children have learned by heart.

There are no high schools, but men who have taken degrees gather students and instruct them in the classics and prepare them for state examinations for degrees. Candidates pass three examinations in their own district. The examination for second degree is held at Pekin, as is the third examination, which renders the successful applicant "fit for office." This is the highest aim of the Chinaman.

2. Socrates, Plato, Aristotle, Pythagoras. Plato founded a school at Athens, tho he is best known as a writer. His great work is the "Republic," in which his scheme of education is outlined. According to Plato, boys and girls are to be educated alike. From birth to seven years the child should have physical exercise. From seven to thirteen, intellectual as well as physical activity is required. Special education begins at twenty. Mathematics, astronomy, harmony and science constitute the work of the first five years, philosophical study that of the last five. Then comes fifteen years of service to the state, after which the student may retire.

3. Cicero, Seneca, Quintilian. Seneca believed that (1) punishment should be mild. (2) It is the part of education to correct evil tendencies. (3) Each individual should be developed according to his peculiarities. (4) Child should be taught truthfulness, modesty, and respect. (5) Environment should be elevating. (6) Few studies, but thoro work. (7) The office of teacher the most important of all offices.

4. It can hardly be applied to-day. It was true of Greece before the fall; of Rome in the days of the emperors; of France in the days of Louis XIV.

5. His remarkable "Tractate on Education."

6. The aim of education is harmonious development of all the powers. Moral culture is unfolding of will thru love. Intellectual culture is unfolding of ability thru use. Spontaneity and self-activity are the necessary conditions under which the mind educates itself and gains power. Pestalozzi's most popular writing is, "How Gertrude Teaches Her Children."

7. Compayre's History of Pedagogy includes: Education in Antiquity, among the Greeks, at Rome, among the Early Christians and in the Middle Ages, the Renaissance, Luther and Comenius, Education in the Seventeenth Century, the Eighteenth Century, the French Revolution, Pestalozzi, Education in the Nineteenth Century.

8. Ascham, Montaigne, Ratich, Milton, Locke, Jacotot, Spencer, Froebel. For estimate of the work, personal answer required.

9. For first part of question personal answer required. Thomas Arnold was born in the Isle of Wight in 1795. He became master of Rugby in 1828, and there he became noted for his advanced educational ideas and reforms. Especially did he cultivate in his pupils a sense of duty and a high moral and religious tone. His educational ideas are incidentally set forth in Hughes' "Tom Brown at Rugby." His son, Matthew Arnold, poet and philosopher, was born in 1822. He was for several years inspector of schools and for many years professor at Oxford. His best known works are "Literature and Dogma," and "Essays in Criticism," besides a number of poems.

10. For sketch of Dr. White see *The School Journal*, or "Who's Who in America."

METHODS OF TEACHING.

1. Distinguish clearly between telling and teaching. What do you regard as the real relations of parents, teachers, and pupils? What are the relative merits of private reproof and public punishment in school discipline?

2. What are the best evidences of success in teaching? How may enthusiasm among pupils be promoted? Cite some of the more formidable obstacles to good government in school and state, how they may be overcome. How may pupils be taught to think?

3. Name and define the different kinds of school districts in Ohio. Under what conditions may pupils be suspended or expelled from school? Outline the provisions of the compulsory education laws existing in Ohio. State your opinion of normal schools as instrumentalities for the promotion of popular education.

4. Of what use are current events in teaching? How can the teacher cultivate in the pupil the ability to use language readily and accurately? How may a spirit of investigation be awakened in the minds of the pupils? How may the attention of pupils be most effectually secured? Contrast the qualifications of a primary and a grammar grade teacher.

5. Distinguish between education and knowledge. Explain the principle of teaching from the known to the unknown. Name five educational reformers and write a biographical sketch of one of them. What preparation for the work of teaching have you made? What has been your teaching experience? What grade of certificate do you now hold?

ANSWERS.

1. (a) Telling is simply giving facts to pupils. Teaching is making, by one means or another, pupils comprehend the meaning of facts and ideas in such a way that they gain power, thereby, to think, and to use the knowledge gained.

(b) The real relations of parents, teachers and pupils are those of friendly co-operation.

(c) Other things being equal private reproof is preferable to public punishment, because it is easier to influence a pupil for good when he is taken alone than in the presence of others. On the other hand, there are circumstances such that it will be of more lasting good to some pupil to shame him by public punishment than to take him privately. The public punishment should, however, under ordinary circumstances be avoided.

2. (a) The interest of pupils in the school work, and their evident growth and advancement day by day. (b) By the enthusiasm of the teacher. (c) Dislike of pupils for teacher, the temptation to whisper, poor discipline on the

part of the preceding teacher. The difficulties may be overcome by the exercise of tact and by keeping pupils so busy and so interested that they have neither time nor thought for mischief. (d) Pupils may be taught to think by insisting that they do their work for themselves, without help from the teacher, each other, or any outside sources.

3. This question is local in character, but teachers can easily apply to their own state. There is no question that normal schools are powerful instrumentalities for the promotion of education. They have proved their right to existence in every locality where they are found. In nearly every state where they are of long standing, efforts are being made to have their number increased.

4. (a) Current events should be read and discussed in every school-room in order to get pupils interested in what is going on in the world of affairs, of which they will later be a part, and in whose welfare they should have a never failing interest. (b) By speaking accurately herself, by reading to and with the pupils the best in literature; by insisting that pupils speak a great deal in school, and always correctly. (c) By inductive work in nature study, and by asking questions regarding phenomena of all sorts, insisting that pupils find the answers themselves. (d) By arousing their interest. (e) The qualifications of a primary and a grammar school teacher are similar in certain respects, dissimilar in others. Both must be able to teach and must love children. The primary teacher should have an in-born gift for managing little children and she must be able to enter into their interests with never-failing patience and sympathy. The grammar school teacher must be an excellent disciplinarian, and of sufficient enthusiasm to keep pupils interested when they are most inclined to shirk work and get into mischief.

5. (a) Education implies ability to use for self and for others the knowledge one possesses. Knowledge is a minor part of education. (b) It is necessary to reach the unknown by way of the known in order that the pupil may get a clear comprehension of what the teacher wishes to give him. This method of teaching should be employed because it is the safest, the simplest, and the most economical. (c) Rousseau, Basedow, Pestalozzi, Froebel and Horace Mann. For brief biographical sketches, see Lang's "Great Teachers of Four Centuries," published by E. L. Kellogg & Co.

Questions on Dr. L. Seeley's Article.

(Continued from page 37.)

7. Describe the importance and purpose of recapitulation in the teaching of a new lesson.

8. Why is application an essential "step" in instruction, and under what forms does it appear most frequently in school work?

9. Enumerate and explain the principal rules of good questioning in teaching, and illustrate each.

10. What is meant *a.* by analytical, *b.* by synthetic method? Give examples of each.

11. *a.* What considerations govern the classification of methods of teaching as analytical, synthetical, inductive, and deductive? *b.* How may they be distinguished, and what mental activities are especially appealed to by each?

12. How is it possible that a teacher may fail of success in spite of a scientifically correct method? (Illustrate.)

13. Enumerate the principal tests of a true method, give the rationale and discuss the importance of each, and illustrate by examples

EDITORIAL NOTES.

The increased size and improved typographical appearance of *Educational Foundations* give encouraging testimony to the wonderful progress made in professional self-culture among teachers. Here is a magazine wholly devoted to the serious study of education. Of other subjects only such are introduced as will aid the student to be more amply prepared for a comprehensive survey of the foundation problems. Fads and other ephemeral matters are excluded, as are also ready-made devices and substitutes for the teacher's own thought products. The purpose is to supply the best obtainable means for intensive and extensive study of the fundamentals involved in the work of school teachers. The reader is believed to be a person of intelligence, desirous of obtaining a firm grasp on pedagogy and its related sciences. There being no other periodical consistently and systematically laboring for the ends here briefly indicated, the subscription list of this magazine may well be regarded as an index to the status of the professional development of teachers in America.

The departments of the present number are those that will be carried thru the whole year. They represent distinct courses of systematic self-culture for educators of children (excepting, of course, the pages of "Teachers' Examination Questions" and editorial notes). Individual students are advised to select from these three "major" courses, for close and critical study. If desired, this major work can be easily supplemented by the selection of such additional reading as may aid the discriminative mastery of the topics treated each month. Reading circles and educational classes and associations will find it practicable to limit themselves to not more than two courses, preferably "Child Study and Child Training" and "The Methodology of Education," these to be intensively studied and fully discussed at the stated meetings. The remaining courses may then be left to individual members. In order to encourage every member to take the fullest possible advantage of the opportunities for professional growth offered in this magazine, it will be a profitable plan to choose one leader for each department not included in the special discussions and let him conduct a quiz after the close of the principal work of the meeting.

The next chapter in Dr. Charles B. Gilbert's noteworthy series on "School Administration" will appear in the October number and will treat of the superintendent of schools, his place in the school system, his duties, privileges, and limitations, "one man power," etc. This will be followed by a presentation of the duties of supervisors, principals, specialists, and regular teachers, their functions in the system, and plans for their harmonious co-operation. A consideration of the various systems of grading and promotion will come after this, with a discussion of individualism and examinations. Dr. Gilbert will next take up the course of study—general principles, educational values of the various subjects, their correlation into a harmonious whole, effecting saving both of time and energy, and better education for the children. Later there will be an article on the organization of school boards and other governing bodies, methods of election or appointment, terms of office, character of representation, functions, and operation under various schemes of committee organization, etc. Finally, Dr. Gilbert will write upon the social functions of the school, the position of the school in the community, its relation to the general civic and social life, to the public library and other educational and semi-educational institutions. This general outline indicates what a rich course of reading will be provided in the department of School Administration.

There is in our American literature of pedagogy nothing which covers the ground of Dr. Gilbert's special series in *Educational Foundations*. Yet the problems here discussed are, by reason of their intensely practical nature, of the very highest importance to everyone engaged in school work.

This being the first number of the next school year the initial articles in every department are largely of the character of preliminary general surveys. Their importance is all the more obvious. Thus a knowledge of the main guide lines laid down in Dr. L. Seeley's contribution on "True Tests of a Good Method in Teaching" will be presupposed in the method work of the succeeding numbers of this volume. On the other hand, a full comprehension of the many questions raised in these introductory articles is not to be expected of the pedagogical novitiates among us.

Further test questions based upon this month's reading will be printed in December. They will then serve also as a review of the work of the first four months. The plan is to have three of these reviews. The second one will be given in April and will cover the work from January to April. The third will comprise the reading of the whole year and is accordingly set for the June number.

Authors of Articles in this Number.

The solidly excellent character of nearly all the articles collected in the present number must impress the reader even after a merely cursory examination. The authoritativeness of the ideas here offered may be judged from the following brief biographical notes on the distinguished educators represented in this number.

It will be noticed that there are two Drs. Seeley whose names appear; one is a distinguished English scientist, the other a well-known American educator.

"True Tests of a Good Method in Teaching."—Levi Seeley.—p. 6.

Dr. Levi Seeley's pedagogical writings have won him thousands of friends among the teachers of America. He has been for many years a leader in the development of professional study. Since his graduation from the New York State Normal college at Albany, in 1871, he has continuously labored in the field of school education. After teaching in country schools and gathering experience as school superintendent he went abroad for a more extensive study of pedagogy, receiving the degree of Ph.D. at the University of Leipzig. After his return he became principal of Ferry Hall seminary, at Lake Forest, Ill. For the last seven or eight years he has been professor of pedagogy in the New Jersey State Normal school at Trenton, N. J.

"Use of Maps in Teaching Geography."—H. G. Seeley.—p. 14.

Dr. H. G. Seeley is one of the most noted geologists in the English speaking world. He is also distinguished as a teacher of geography. His suggestions on "The Use of Maps in Teaching Geography," were first presented to the London College of Preceptors and are here printed in the form of a summary. There will be found here an abundance of guide lines for the study and teaching of geography.

"The School as a Social Institution."—William E. Chancellor.—p. 1.

Dr. Chancellor is always interesting in his writings. He is keen in discernment and frank in statement. Since his graduation from Amherst college he has taught in elementary and high schools and collegiate institutions and is at present superintendent of the schools at Bloomfield, N. J., where he is doing excellent work. EDUCATIONAL FOUNDATIONS had from his pen, three years ago, a thought-provoking course in American History and Economics, which attracted considerable attention at the time.

"The Study of Child Nature."—John Adams.—p. 24.

Professor Adams knows how to put apparently dry subjects into attractive forms. His book on the Herbartian pedagogy was a revelation to many teachers. It brought its author into prominence at one bound. He has lately brought out a number of papers on practical topics of teaching in a booklet under the title "Primer on Teaching, with Special Reference to Sunday School Work." The article here printed, with slight modifications to adapt it to the needs of

EDUCATIONAL FOUNDATIONS is the first one in the collection. Mr. Adams is at present connected with the University of London in the capacity of professor of education. Before this he was a teacher of teachers in the University of Edinburgh.

"The Life and Educational Labors of Comenius."—S. S. Laurie.—p. 48.

Dr. Simon Somerville Laurie has been since 1876 professor of the institutes and history of education in Edinburgh university. His "Life of Comenius" is no doubt the best work on this subject to be found in the English language. Those who wish to make a more extensive study of Comenius than the material here given affords an opportunity for, will do well to consult that book. However, the above summary contains everything that is important for teachers to know. Special care has been exercised in preserving whatever may shed light on the character of Comenius as an educator. An outline of the educational principles of our Grandmaster of Pedagogy will be published in a later number, probably in January or February.

"How Children are Made to Suffer by the Mistakes of Educators."—Guglielmo Ferrero.—p. 31.

Dr. Ferrero is a distinguished Italian psychologist. His investigations have been chiefly along lines of psychiatrics. Cesare Lombroso with whom he is associated is perhaps more widely known among American teachers. The article here published points out some of the mistakes made in early education which cause children much physical suffering and mental anguish. This also supplies an abundance of topics for fruitful discussion at parents' meetings, aside from its directly practical bearing upon the work of the teacher.

Partial List of Articles to be Published in the October Number:

School Administration,

The Superintendent of Schools.—C. B. Gilbert.

Child Study and Child Training,

Fatigue.—Maximilian P. E. Grossmann, Ped.D.

Nervous Disorders in Children and Their Educational Treatment.—George H. Savage, M.D.

Growth and Arrested Development.—F. M. Powell, M.D.

Methodology of Education,

Educational Uses of Stories.—Anna Buckland.

The Uses of Fact and Fiction in the Early Education of the Young.—H. Courthope Bowen.

History of Education,

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Contents for October, 1903

Social Problems and the New School Community. I. Ossian H. Lang - 81

SCHOOL ADMINISTRATION

The School Superintendent. Chas. B. Gilbert 84

METHODOLOGY OF EDUCATION

The Uses of Fact and Fiction in the Early Education of the Young. H. Courthope Bowen - - - - - - - - 93

Educational Uses of Stories. Anna Buckland 105

CHILD STUDY AND CHILD TRAINING

Some Causes and Effects of Fatigue in School. Maximilian P. E. Groszmann - 113

Nervous Disorders in Children and Their Educational Treatment. George H. Savage, M. D. - - - - - - - 117

HISTORY OF EDUCATION

The Life and Educational Labors of Comenius S. S. Laurie - - - 127

HISTORY OF GREEK ART

Greek Art—First Period

TEACHERS' EXAMINATIONS

EDITORIAL NOTES

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Educational Foundations

OSSIAN H. LANG, Editor.

Vol. XV., OCTOBER, 1903. No. 2.

Social Problems and the New School Community. I.

THE conditions revealed by the frequent recurrence of labor strikes have gradually impressed upon the public conscience the exceeding importance of industrial peace and social co-operation. They have also emphasized the urgent need of suitable provision for the leisure hours of the laboring people. It has been discovered, further, that the hold of the principles of self-government upon the adult population is neither as universal nor as firm as the welfare of our republic would seem to demand. Here we stand before most serious social problems. I believe, and have contended for some years, that the root of the difficulties is to be found in the lack of an intelligently organized system of opportunities for the recreation, the social intercourse, and the self-improvement of the laboring adult population in rural as well as urban districts.

Society must learn to take practical cognizance of the gradual increase of the laborer's leisure time. With fewer hours of labor the toiling masses have more time to themselves. Here is where the enemies of social order get in their work. The safety of society is poorly guarded where no effectual plan exists for checking, modifying, or offsetting the obnoxious influences developed under the changed aspect of economic life.

As usual when the discovery is made that something is awry in civilization, wise people are looking to the schools to set things right. There is a growing faith in the power of the school, more particularly the common school, to shape the future of the nation. It behooves the schools to prove themselves worthy of this faith. They cannot afford to shirk the multiplication of responsibilities. They must rather turn into themselves and see wherein they may aid the solution of the difficulties now engaging the attention of sociologists.

The common school has proved itself the most efficient agency for Americanizing the children of foreigners. So, I firmly believe, it will reveal, when once given the chance, its still greater, tho as yet untried power of bringing the alien population, both immigrated and native aliens, under the sway of our national institutions and ideals. Americanism is a principle, not a birthmark. The enemies of social order are recruited not only from the armies of the people coming to us from countries in which a lower civilization prevails, but also from the ranks of those who, tho born under the Stars and Stripes, have never felt in their souls a dawning of the thought that lies at the foundation of our national institutions. There is one other class who must be especially looked after, and that is composed of people for whom the schools have failed to provide resources to occupy the mind after the day's work is done.

Civic society is at last beginning to endow and maintain agencies for the supply of opportunities for the entertainment and social intercourse of the people. Free concerts, recreation piers, popular lectures, evening schools, free reading rooms, the extension of the park system to the crowded population centers, the opening of free playgrounds—all these speak volumes for the awakening of an intelligent, healthy social conscience. Every aid is extended to facilitate intellectual self-improvement and to supply good entertainments for the masses. What interests us most directly is that all these things are gradually being gathered together where logically and rightfully they ought to center—under the responsibility of the common school. Not that the school is to furnish all the means of intellectual improvement and social association, nor that alone it is to direct the chief phases of social co-operation, but it is to be rather the central clearing house for the various endeavors put under way for the enlistment of every individual in the advancement of the common welfare.

Slowly, but surely and consistently, the social mission of the school is being extended to include the care for the leisure time of the adult population. This is wise economy. There are inherent in this institution possibilities which can and ought to be exploited for the strengthening of our democracy, and the inauguration of an era of peaceful co-operation. While these opportunities for social well-doing remain neglected or but partially developed, the saloon, the walking delegate, the yellow journal, and the demagogs of political platforms and desecrated pulpits will continue to wield their danger-fraught influence, and will encourage the spread of class hatred and stir the disgruntled and ignorant to strikes and social disorder. Proper development of the fundamental ideas of the common school will result in plans of social endeavor and organization that will effectually check the reign of demagogism,—that giant evil which has corrupted the principles of government, has bred a tribe of professional politicians, with their heelers, lobbyists, and other parasites, has practically disfranchised a large proportion of citizens and has deprived them of all feeling of responsibility and being-in-it-ness in governmental affairs.

The development of the social scope of the school in recent years is nothing short of marvelous. Night schools are with us, free lecture courses, reading rooms, play centers, vacation schools, concerts, parents' meetings. Those who labored for these things were not at all encouraged in their hopes and efforts by the attitude of school men. But they came, nevertheless, and they are only promising beginnings of greater things yet to come.

Every extension and every improvement of the school plant increases the range of possibilities. The school playgrounds will be fitted for games, gymnastics, general out-door recreation, and will be open to young and old after school hours. The most elementary thoughtfulness will suggest that on cold and rainy days the people be permitted to use the indoor gymnasium. Rest rooms, the establishment of neighborhood libraries, reading rooms, and simple indoor entertainments will follow as a matter of course. The free use of the school baths is already assured in New York and Boston and wherever enlightened public sentiment has established these desirable institutions. The same may now be said of the plan of making the district schools serve as distributing stations of central libraries and museums. Before long the proper authorities may be persuaded to permit many of the works of art, now stored away in art galleries, to be sent out on trips to the various common school centers, preferably the high schools, and these art exhibits thus brought near to the homes of the people will prove the most effective stimulus to a universal cultivation of esthetic taste yet devised. Literary and musical clubs, village improvement societies, and patriotic associations will be invited to make the school-house their home. There will be circles for dressmaking, millinery, cooking, and all the other household and motherhood arts; free associations for local history and geography, good citizenship, theatricals, photography, horticulture, etc., etc., etc.

Practically the entire population will be drawn in and enrolled in classes, lecture courses, and societies for purposes of intellectual, moral, physical, and economic improvement. The vans that are now used to convey pupils to and from school suggest available means for the transportation of adults to the common social center which has so long been confined to the narrow boundaries of a school for children. Social service will be the ambition characterizing the new evolution—social service in its broadest and most comprehensive scope—social service identified with the highest type of human aspiration—social service representing the truest human interpretation of the divine idea underlying destiny—social service expressing best the earnestness of man's endeavor to do the will of the All Father which is in Heaven.

SCHOOL ADMINISTRATION.

The School Superintendent.

THRU all this series of papers published in Educational Foundations last year, the school superintendent has been taken for granted. His various functions and necessary qualifications have been referred to from time to time and opinions have been expressed regarding some of them. It now seems time to treat of the school superintendent as fully and connectedly.

It is to be remembered in all discussions regarding this official and his work that he is a recent comer into the field of education; that public sentiment regarding him is yet in a state of flux and that his office is still in the process of evolution. There is very much of experimentation, with the widest variety of office, and there is an extreme variation in practice regarding him, all of which indicates his newness and his evolutionary state.

The position of the teacher is a comparatively settled one, and also the position of the school board. Whatever of uncertainty and change is found in relation to their functions grows out of a reciprocal change in regard to the superintendent. He is gradually, as he evolves, modifying the power, the position, and the work of the older functionaries.

The school superintendent is, in the first instance, the product of a civilization which is rapidly becoming condensed, congested, and urbanized. He is simply a type of the condensation and unification and differentiation of function that is going on in the whole business world.

As we have, strictly speaking, no national system of education and no head with authority, and, even in our states, heads, for the most part, with very limited authority, the position of the superintendent of schools in any community is a local affair and due to local conditions, except as these are modified by the diffusion of knowledge and by the influence of the general movement which is sweeping not only the land but the civilized world. These general influences, however, are not yet of sufficient potency to produce very close resemblances in the functions of superintendents of schools in cities and rural communities having widely diverse origins and ideals.

The superintendent of schools of Boston is a very different official from the one bearing the same name in New York. The former has little more than clerical duties to perform, except a few which are on paper and given him by the board of education. They are not statutory duties. The latter, on the other hand, is a statutory official possessed of very great power. He is in no sense the clerk of the board of education, and only in a very few senses its servant. The superintendent of schools in Cleveland, until the recent upheaval, has been in many respects an autocrat, with functions quite different from those of the board of education, and in no sense subordinate to them.

These are instances of wide divergence, due to different historical development, and indicate how difficult it is to generalize regarding the ideal characteristics of a school superintendent. It takes a man of one type to be a successful subservient clerk and confidential adviser of the board of education, which arrogates to itself, or has inherited, all legislative and executive functions relating to the administration of schools. It takes a man of quite a different type to exercise the authority imposed by law of appointing teachers, determining courses of study, and, in general, directing the school system. In some instances the superintendents who have been quite successful in the former capacity, have not succeeded very well when by a change in method of administration new powers have been conferred upon them.

Nor is it wise to have uniform laws thruout the country, giving superintendents of schools the same powers and duties in all places. Local conditions are of great importance and no *ex cathedra* law can succeed that is out of harmony with them. To attempt to put in force in Boston, for instance, a law such as that which has prevailed in Cleveland would doubtless result in endless bickering and wrangling, if not in complete failure. Boston people are accustomed to rely upon the school committee to run their schools, and would rather have them do it badly than to have an autocratic superintendent do it well, and if I may be pardoned the bull, such a superintendent would be doing it badly under the circumstances.

Notwithstanding all this there are certain general characteristics which belong almost of necessity to the successful school superintendent in any locality, and there is a sufficient agreement upon certain fundamentals to make it possible to speak of school superintendents generically. Many of the extreme views held in certain places, by certain radical reformers, have been materially modified and are likely to be more so, and on the other hand, the extremely conservative views held by some of the older communities will also be modified by the passage of time and by contact with a moving world. But the time will never come, I confidently hope, when a school superintendent's duties and powers will not vary with the community, and the best superintendent will be the one who fits local conditions and, if he moves from place to place, who is able to adapt himself to the circumstances growing out of new environment.

With this introduction let us consider as well as we may the school superintendent generically. He is the result of very recent development. At first he was not supposed to have technical skill. His office was largely clerical. As communities grew and schools increased in number it became necessary to have some connecting link which, for clerical and official purposes, should preserve a sort of unity. The school masters were the educational experts who were supposed to run the schools. The school board was the general directing agency, and the additional official came into office simply to represent the board.

VARIOUS FORMS AND STAGES OF DEVELOPMENT.

In some parts of the country the office has not yet advanced beyond this rudimentary stage. It has gone little further in the great city of Philadelphia, where the principal office of the superintendent, who is personally a most scholarly and delightful gentleman, is to pursue investigations, advise the board and fulminate occasional reports. In some of the Western cities, notably in the state of Wisconsin, there are still superintendents who are minor functionaries; in some cases appointed by the board of education, and in some cases elected by the people, with no educational function whatever. Twenty years ago, and even considerably more recently, there were many such. My first experience in Wisconsin was in a city where the superintendent of schools was a small local politician, elected to the office by the people, and paid, if my memory serves me rightly, the munificent sum of $200 a year. He was supposed to keep the records and distribute blanks. This particular incumbent magnified his office and occasionally held teachers' meetings at which report blanks were discussed. The principals were literally the heads of their schools. The high school principal was the chief educational official and performed some of the duties that the school superintendent now performs. Unless I am mistaken, this rule still prevails in that same city.

In other cities, as in Philadelphia (already noted), the school superintendent has been evolved into the educational adviser, practically without executive functions. In still others he is the executive officer of the board with considerable power, which varies according to his executive ability, his power to hold authority, and with the willingness of the board of education to part with some of its legal powers. In this uncertain state a strong superintendent will pretty nearly dominate the school system of which he is the head; will select teachers for appointment; will prepare and direct courses of study, and will be reckoned upon by the board of education in anything that they might do, and this even with a board of strong political tendencies. In the same system a weak superintendent will have no authority in regard to anything. That is, it is a matter of personal force and not of statutory powers and functions.

In other cities, as I have said, the evolution has gone so far that possibly a reversion of type will be necessary. That is, the superintendent has acquired pretty nearly autocratic powers. He is not merely the executive adviser of the board, but is vested with certain legislative powers. This was rather too much the case in the late lamented Ohio law.

VIEWED GENERICALLY.

But out of all this uncertainty and lack of uniformity, a few truths are beginning to emerge clearly and definitely. The school superintendent is becoming an expert. He is coming to be recognized the country over as a man who has made a thoro study of certain educational problems and is more familiar with them than other people are. When a vacancy occurs in a superintendency of a city, it is becoming yearly more and more common to go outside and find a man who has had training as a superintendent in some other city. Occasionally the cry is still raised that home talent is good enough, and untrained men are put into the office and receive their training there, but this is disappearing. Our better and higher professional schools are offering courses of training designed especially for those who intend to undertake the work of supervision, and the normal step is coming to be from that of school principal to school supervisor or superintendent in a small town, where the functions are little different from those of the principal of a single school, and from that to the superintendency of a larger town, until the very large ones are reached.

Sometimes the door of approach is from a county superintendency, but the important point is that the superintendent is being recognized as an expert. This is not less so in those places in which he is merely the official adviser of the board, than in those in which he is the real executive head of the school system.

There are two general classes of work in which the superintendent is supposed to excel and in which he is given, increasingly, power. They are the *selection of teachers* and the *direction of teaching*. There are very few cities having a school superintendent in which he has not at least some voice in both of these matters. Sometimes the voice is very small and ineffective, but he is expected to have something to say about the selection of teachers and something to say about the character of the work done in schools. He is no longer, except in a very few instances, merely a clerical assistant.

As to the former of these duties—the selection of teachers—his powers vary from the vaguest, most indefinite advice to the board and the endorsement of the board's action, thru the grades of licensing and nominating to that of actual undisputed appointment, and opinions differ widely as to where in this scale he should properly stand.

In regard to the direction of work, there is also a scale, but there is less uncertainty than with regard to the appointment of teachers. There are very few systems in which the superintendent does not prepare the course of study, at least for the approval of the board of education, and when the course has been adopted, does not supervise its administration. Sometimes, it is true, this supervision has very little effect because the superintendent is unable to take remedial measures if the teachers do not obey his instructions, but even this is rapidly passing.

We must consider what power it is really best to have bestowed upon superintendents of schools under average conditions with regard to these two general functions.

ONE-MAN POWER.

First, as to his appointment and disciplining of teachers: Is the one-man power about which we hear so much in these days advisable? If not, how much power should the superintendent have? The Ohio idea of making the superintendent practically absolute over the body of teachers had at one time very many advocates, especially among superintendents themselves and radical reformers. The criticisms upon such laws as that prevailing at that time in Cleveland and other Ohio cities, was not that the superintendent was too absolute, but that he was not sufficiently protected in his own office. That is, that while he was practically absolute with regard to the appointment of teachers, it was felt that his own position might be endangered thru the enmity aroused, and undoubtedly that feature of the Cleveland law was inconsistent with the general scheme.

It is quite evident to students of public opinion that the idea of the one-man power is passing, and I am quite convinced that in the future in the average city, while the superintendent will be an important official with much power, he will be subject to certain checks from the representatives of the people, which will safeguard both him and the schools.

The advocates of the granting of absolute power to the superintendent point to great business concerns with their authoritative executors who can appoint or dismiss employes at pleasure. They forget that while the public school system is a great business, it is more—it is a public institution, part of the governmental machinery of the city; not the agent of a few people working for their own advantage, but the representative of all the people. They further forget that the results of the school administration are not so tangible as those of a business organization, as a railroad or factory; that they cannot be adjudged by the examination of a set of books, but that they are metaphysical, remote, and difficult to prove; that often the best judges are the heads of families to which the children belong and who are consequently in daily touch with the children. Schools must give pupils the kind of training that the average citizen wants for his children and not that which an administrative officer, however expert, may think best for them. In the long run, better schools and a wiser educational system will grow out of the demands of people than can be secured by the ablest educational expert working alone. The Emperor William is not a good type for a school superintendent. It is not good for any man to have absolute power, nor is it good for any institution, small or large, to be under the absolute domination of a single will. Particularly is this true of an institution like a school system, which depends for its excellence upon the intelligent co-operation and sympathetic work of a large number of people.

The teachers of a school system, as I have already pointed out in an article on the "Freedom of Teachers," cannot be treated as "hands," without imperiling the work of the schools. The work of the teachers is spiritual work, and no teacher simply teaching under the absolute domination of another's will can do the best work, nor is it good for the superintendent himself to be absolute. For the average superintendent is not safe. He is very sure to wreck himself in an inconceivably short time.

OFFICIAL RELATIONSHIPS.

The relation of the superintendent of schools to the appointment of the teaching force should be somewhat like that of the

President of the United States to the appointment of postmasters. It should not be possible for a board of education to put in a teacher without the approval of the superintendent, nor should the superintendent be able to put in a teacher without the approval of the board of education. This gives the superintendent all the power he needs, because no one individual is essential to a school system, and commonly if there is strong objection on the part of the board to any individual there is good reason for it, and the superintendent is better off as a superintendent with someone else in place of the objectionable teacher.

Moreover, the success of a system depends upon public support to a very large extent. The board of education represents the people, and an appointment made by the superintendent, confirmed by the board, divides the responsibility to a degree. The superintendent is primarily responsible, but the board of education is also responsible to the people. Its individual members cannot shirk such responsibility. If improper teachers are appointed and confirmed by them, the superintendent, of course, will merit the first blame and will get it, but the board of education cannot join the issue against the superintendent,—they are likewise responsible. This is a great source of strength to the superintendent.

As to the discipline of teachers, the superintendent should have the power of suspension, but not of final removal. The board of education should again share the responsibility, and the teacher should be allowed to continue unless the board can be brought to approve of the suspension. A wise superintendent wants all the strength that he can get, all the support, and, in general, it is safe to say that if he is unable to convince an ordinary board of education of the justice of his action he is probably wrong, though of course not necessarily. Certainly if he cannot convince the board, over whom he will have an influence, if he is the right kind of man, he cannot convince the public.

The same general principles apply to the selection of a course of study. It is absolutely necessary that the people thru their representatives approve a course of study if it is to accomplish the best results, and if the superintendent again is unable to persuade a board of education that his course of study is a good one, it probably is not altogether good. Sometimes patience is required, and delay, but the time of the superintendent need not be wasted. It may be employed in educating the public up to his own advanced ideas.

POWER OF INITIATIVE.

A superintendent who has the power of initiative in all important matters, such as the appointment of teachers and the making of the course of study, but whose actions must be confirmed by the board of education, has all the power he needs and all that is good for him. If he is the right man for the place he can practically dominate the situation. If he cannot dominate the situation, cannot secure sufficient influence with the board of education to induce them to follow his leadership, he is not the man for the place. In general, a good and strong superintendent will have his way even under a bad system and a bad board, and the weak superintendent will not have his way even if his power is absolute; he will be dominated by somebody; if not by the school board, by commercial influences, social influences, church influences, or political influences. No system can be devised which will make a strong superintendent or a successful one out of a weak one, and the good superintendent ought not to ask for more than the opportunity to initiate movements and advocate them before the board of education, as I have said, and then if he cannot succeed in persuading the board that he is right, he probably is wrong.

STATUTORY EXECUTIVE POWERS AND DUTIES.

But when all is said it remains that the superintendent of schools, whether in city or county, should be an official with very considerable statutory powers. The character of his office, the duties that devolve upon him, and the responsibility that he is to carry, should be fixed by law and not left to the whim or prejudice of changing boards of education, and, as I have said, they should be very considerable indeed. He should be in reality, as in name, the executive officer of the educational system, carrying out the mandates of the board of education, who act as the people's representatives and who are the proper legislative officers, and having certain specific powers with which even the board cannot interfere.

Among these powers should be, first, that of nominating all subordinates in the school system—supervisors, principals, and all classes of teachers. This should be absolute. It should be impossible for a board to appoint any teacher or any one connected with the school system on the educational side unless such person has been nominated by the superintendent. If the board fail to confirm any appointment of the superintendent, then it should be his duty to make another.

He should also have power to transfer all teachers for the good of the service without confirmation by the board, provided such transfer does not involve degradation as to position or reduction of salary. If a teacher has been suspended, the approval or disapproval of the suspension should rest with the board of education.

It should be a statutory duty of the superintendent of schools to prepare a course of study and administer it. Such a course, however, should require the approval of the board of education before final adoption. Once adopted, it should rest with the superintendent to interpret it and to see that it is carried out by the teachers. This should include authority to call teachers together and to give them definite instruction to that end.

In the matter of licensing teachers, the superintendent should have a voice, but should not be the sole licensing authority. If there is a special licensing board he should be a member of it.

These are what I deem the essential statutory powers of the superintendent of schools everywhere. What more he shall make of his office is a matter for further discussion. The strong superintendent exerts a vast influence, not only upon the schools, but upon the community, far beyond the statutory definitions of his functions.

In the next article I shall endeavor to discuss the superintendent in his capacity of guide and counselor of the teachers and general head of the school system, and also in his extra-official capacities.

C. B. Gilbert.

New York.

QUESTIONS.

1. Mention examples showing present divergence of functions assigned to school superintendents.
2. In what divisions of work is the superintendent as educational expert supposed to excel?
3. Under average conditions, what powers should be vested in the superintendent? Argue each point.
4. What limitations of the superintendent's powers are desirable for the best interests of a common school system? Why?
5. What ought to be essential statutory powers of school superintendents everywhere? Discuss.
6. Discuss fully Mr. Gilbert's statements with reference to the "power of initiative," and why this may be considered "all the power the school superintendent needs and all that is good for him."
7. Mr. Gilbert says, "It should be impossible for a board to appoint any teacher or any one connected with the school system on the educational side unless such person has been nominated by the superintendent. If the board fail to confirm any appointment of the superintendent, then it should be his duty to make another." Discuss this proposition and give reasons for the wisdom of it.

METHODOLOGY OF EDUCATION.

The Uses of Fact and Fiction in the Early Education of the Young.

BY fiction I mean whatever is not a reproduction of what actually is or has been. In speaking of its educational uses I will try to show that, even if the fiction be purely imaginative, it is quite unnecessary to exclude it from education, as Herbert Spencer and others, and Bain to some extent, practically do; and, more, that to do so is unsound in pedagogic principle, since this deprives the child of a natural and useful means of exercise.

Herbert Spencer, tho assuring us that he sets a high value on poetry and art and the esthetic emotions, practically relegates the cultivation of them to the Greek Kalends. " When," he says, " the forces of nature have been fully conquered to man's use; when the means of production have been brought to perfection; when labor has been economized to the highest degree; when education has been so systematized that a preparation for the more essential activities may be made with comparative rapidity; and when, consequently, there is a great increase of spare time; then will the beautiful, both in art and nature, rightly fill a large space in the minds of all "—an idea which is remarkably like Rousseau's, that if you give a child no education up to the age of twelve you will then find him able and eager to learn. Mr. Spencer's own views on development should have saved him from the mistake—if you sedulously neglect the exercise of any faculty, it will assuredly dwindle out of use.

Dr. Bain would not have us ignore art and poetry; but, when dealing with literature, he pushes the subject-matter into the background. Speaking of purely imaginative literature, he says: "This kind of imagination is to be viewed, in the first instance, as a source of pleasure, an ingredient in the satisfaction of life. In addition to our enjoyments gained from contact with realities, we crave for the contribution that comes from ideality. Now, ideality is a different thing for different ages: fairy-tales and extravagances for the young, the poetry of Milton for the old. There is nothing educative in the first instance; we are not aiming at instruction, but drinking in emotion. The gratifying of children with the literature of imagination is a matter for the parent, as much as giving them country walks or holiday treats." Later on he adds: " When we come to fictions of a lofty order, as the works of the great poets . . . we imbibe into our recollections the highest strokes of human genius. Here, then, fiction is an element in our education"—a statement which seems to me to give away the whole case. How far this education should be given in schools is a question, he says, for consideration. But, surely, if this kind of literature is of such striking power as Dr. Bain describes it to be in the very same chapter from which I have quoted, schools cannot afford to ignore it; they should enlist its service and turn it to educational use, and not leave it to the random attention of parents—noting, by the way, that, tho instruction and education are closely related, they are not synonymous. In short, even as Dr. Bain puts it, the question evidently reduces itself to this—shall we use a child's spontaneous activities and natural delights as a means of education, or shall we push them aside and adopt other arbitrary, and mainly adult, modes and means of exercise? Shall we assign one department of material and mode of educational activity to the home and another distinct department to the school, or shall we strive to bring the home and the school into as close an organic union as possible?

But, before proceeding further with the consideration of such questions, let me, for a brief space, describe what seems to me the psychological aspect of the case.

THE PSYCHOLOGICAL ASPECT.

The mind, in the first instance, gets its material thru the senses. When the mind becomes conscious of, takes account of, what the senses present, it is said to have a presentation, or sense-impression. When, besides being conscious of a sense-impression, or mass of sense-impressions, it interprets, gives a definite meaning to, this state of consciousness and refers it to something outside itself, the mind is said to form a percept. As Professor Sully puts it, perception is mental activity employed about sense-impressions with a view to knowledge. It is evident that neither sense-impressions nor percepts can be accurate and perfect from the very beginning. There must be a gradual growth in the general apprehensive power of the mind, in the working of the senses, in clearness of and discrimination between sense-impressions, and in interpretation of them. For this there are needed prolonged experience, repetition, and power of retention. In short, a good percept is a growth, not a ready-made thing imposed by one mind on another.

But the mind's activity is not restricted to the particular, the isolated, and empirical. Thru the combinations and permutations of its percepts, by means of abstraction, comparison, discrimination, classification, generalization, it moves forward to the formation of general notions or ideas of things and of their qualities. General ideas, or concepts as they are called, are not perfect at once; for a great number of us many of them never become perfect at all; and from their very nature some of them are incapable of absolute accuracy. Their perfection depends upon the gradual perfecting of the processes of abstraction, comparison, etc., upon the perfection of the percepts out of which they rise, and upon a more and more enlightened experience, and a more and more accurate judgment.

Concepts, too, are gradual growths; and the teacher's task is not to impose them ready-made on the mind of his pupil, but to stimulate, sustain, and direct him in improving their contents and the modes of activity by which they are formed. This he can only do by helping to provide a wider experience, and by encouraging his pupil's self-activity; not by discouraging and depreciating this activity by rejecting its results and substituting other ready-made results which are not the pupil's own, nor by prematurely demanding from his experience what his experience has not in it to give..

Accuracy cannot be imposed by authority nor secured by compulsion and punishment. It is a growth, to be produced by gradually inducing a clearer perception and deeper appreciation of its value. Premature, undiscriminating insistence on it impedes or stops self-activity. If we can encourage and help the pupil to be progressively accurate up to, or nearly up to, the limits of his growing experience and knowledge, we shall, indeed, have no reason to be dissatisfied.

But, besides using its materials for the formation of general ideas, the mind uses them—its percepts and mental reproductions—for the construction of new mental pictures and combinations, and for the creation of ideals, that is, for imagination and idealization.

IMAGINATION.

In imagination —constructive imagination—the mind selects from the material already possessed or in process of acquisition such wholes or parts of wholes as it deems necessary for its purpose, and then combines these to produce the new result desired. The materials should be truly possessed and clearly visualized; there should be a distinct, definite idea of the result to be produced; there should be sound judgment in selection, and knowledge of how to form the combination, together with experience of what is possible and harmonious in combination. It is hardly necessary to point out that the beginner cannot possess all, or any, of these qualifications in perfection. The materials will not be truly possessed and will be weakly visualized, and they will be too few or not very suitable; the resulting whole will lack definiteness; the judgment will be imperfect, and the knowledge and experience insufficient; while the rough models chosen to guide the construction will not always be the best for the purpose. In short, thru lack of knowledge and experience, the child's imaginations will be imperfect, often incongruous, sometimes impossible. Are we, therefore, to ignore his imagination or discourage it until all his means and modes are perfect; or should we recognize it, and, taking it with all its imperfections, seek gradually to improve it without undue checking and coercion? It is certain that we cannot improve it without exercising it; and it is certain that the exercise will not be truly effective unless it begins with the child, where he is and as he is, and unless it moves forward at a pace suitable to the growth of his powers and the widening of his experience.

When teaching a child to walk, the great thing is not merely to walk up and down in his presence, but to set *him* walking, and to seek gradually to improve *his* mode and manner. Our aim is not to get him from one chair to another, but to teach him how to use his limbs. And he can only begin in his own manner. So here, the main thing at first is to set the child imagining and to improve *that*. The actual resulting mental picture is of secondary importance in the earliest stages, and commonly its intrinsic value at best is either *nil* or very transient. We need not be impatient because it is often out of touch with actuality and at times impossible. After all, the angels of Botticelli and Fra Angelico are quite impossible as far as human experience goes; and so are "Paradise Lost," "The Ancient Mariner," More's "Utopia," "Pilgrim's Progress," and many another thing we could but ill spare.

IDEALIZATION.

Idealization is commonly defined as the formation of the highest conception of a thing. It is generalization; but, instead of aiming at bringing together all that is typical in the particulars examined, it seeks to combine only what is highest and best in them. By its very nature it transcends actuality, yet is not out of touch with fact. If, when ideals of goodness, of beauty, of conduct, have been formed, it should afterwards be found that it is quite possible to attain to them, they would cease to be ideals in a true sense. Still higher above those heights would rise the true ideals—for ever unattainable, yet for ever drawing us towards them, and showing with their light the way our feet should climb. They take their rise in the experience of fact, but pass thru fact to a region beyond actuality. Yet they are none the less true, if rightly formed, merely because they cannot be completely realized. To aid his pupils in forming *ideas* of goodness, truth, beauty, and in transforming these into *ideals* of conduct, should be one of the chief aims of the teacher.

CHIEF RELATIONS BETWEEN FACT AND FICTION.

Unless the senses, which give the mind its first material, are exercised on realities, they cannot give the mind the sense-impressions which it needs. Unless observation—which is of supreme importance in the earlier stages, and, indeed, important in all—unless observation is occupied with realities, it cannot do its work properly, nor provide the mental food necessary for mental growth. From observation, experience, and thought spring the mental life of man. And so, too, in generalizing, unless the processes it implies are concerned with realities, not only will the resulting generalizations be unsound and of no permanent value, but also the processes themselves will be imperfectly carried out and fail to produce the needed development; tho we must remember that realities do not reveal themselves as such to a young child with the same fulness as they do to an older child, nor to an older child as they do to an adult.

The case is very much the same with imagination when the child uses it in order to mentally picture a description or understand a picture. He will be able to visualize or understand only so far as his mind is in possession of the requisite material; and that will be best which he has really made his own from observation and experience; or, in other words, it will be fact or what seems to him to be such. This also applies, to a great extent, to the child's use of imagination in original construction; but here, whatever may be the material used, the character of the construction lies within the child's own power; and, in his choice of the particular construction, there is no more reason to restrict the child than the man of science solely to the region of the actual, or what seems to be such to the child himself, or his human surroundings. To do so would be to impede the child's own spontaneous movement from the known to the unknown—for the actual here means that which is known to exist. Experience and truer knowledge will in due course correct his faulty constructions. The main thing is to insure, as far as possible, that the child shall not follow the lead of vague or excessive emotion, but that the emotion aroused should be enlightened by intellect and controlled by will.

The man of science, with his mind instructed by fact and educated by experience, is not only an observer but also a discoverer: and he cannot add new territories to the realm of knowledge without crossing the frontier of the known. No doubt many an expedition will be fruitless; but it is only by such expeditions that great discoveries are made. The man of science gains his strength and skill from observation and experience; but when searching for a new truth his conjectures and hypotheses and mental pictures go beyond what he actually knows; tho, of course, when what seems a new truth has been lighted on it must be brought into touch with known fact before it can be accepted; while the discoverer himself, however much he may strain forward into the unknown with one hand, must never lose his firm hold of fact with the other. Let us not forget that the child's imaginings are often his spontaneous endeavors to discover.

I have spoken only of the realm of knowledge. In the realm of art, where imagination subserves the purposes of pleasurable feeling rather than those of knowing, it is plain that still greater freedom must be allowed in the choice of the resulting construction, unless art is to be synonymous with photography. There must be something more than plain matter of fact in poetry, prose, or picture to give it a right to the name of art—a touch of feeling, a gleam of light, a sense of harmonious construction, a breath which blows aside, if but for an inch, the dust of the actual.

But the strength of art lies as much in revelation as in invention. Its essential qualities are insight, selection, and beauty of combination. It, too, like idealization—which is the fine art of conception—must take its rise in observation and experience, must draw its materials from them; and, however high it may rear its head, must keep its feet firmly planted in realities. But, tho esthetic imagination must perforce, in order to be intelligible, draw the details of its materials from the common knowledge and experience of mankind, its right to a large and generous freedom in the choice of constructions should not be unduly questioned. The test of matter of fact cannot always be applied to the resulting construction.

PEDAGOGIC DEDUCTIONS.

From what I have just said three deductions follow naturally:

(1) In all departments of mental exercise matter of fact is of

great value, and in most it is of supreme importance. Facts must be sought for and made as accurate as possible. But in some departments, especially those into which esthetic and ethic sentiments enter largely, and in which ideals, therefore, play a prominent part, matter of fact is not the only thing needed, nor can we restrict the exercises wholly to the limits of known actuality.

(2) Accuracy in matters of fact and in the use made of them is a slow and gradual growth; and we must be content to work at first with inaccuracies, while moving ever towards accuracy.

(3) The law of mental development is that the child's mind must be rendered self-active, and the mental exercises must be given when they are needed and be what are needed, always in harmony with the nature of what is exercised, and continuously in proportion to its strength. This being so, and seeing that the child's store of real fact is small, and his appreciation of an insight into fact and the relations of fact slight and imperfect, some of the exercises which his mind demands for its development must at times pass beyond the limits of the actual— especially in the earlier stages—and the results be out of keeping with fact. The teacher's task is not to ignore or to stop such activities, nor to denounce and compel, but to take them as they are and help them gradually to become better servants of the mind, encouraging and aiding the child to correct the faultiness of his results by his ever widening and deepening experience wherever this is necessary. The child holds quite as strange, and often as impossible, beliefs about matters of geography, history, every-day life, and the physical nature around him, as he does about fairy godmothers and magic wands; and the last are no more baneful than the others.

THE WONDERLAND OF ADULTS AND FAIRYLAND OF CHILDREN.

I shall now turn to speak more particularly of the educational uses of fiction; and, seeing that such controversy as there is on the subject centers itself chiefly round fairy tales, as having least in common with reality, I shall speak of them first. Fairy stories and other tales of the extraordinary and the extra-natural delight children, we are told, chiefly by rousing their wonder. If we wish to produce this effect, why not bring before them the wonders of nature, the fairyland of science? Well, there is one little drawback to this which ought to be mentioned, and that is that these wonders are not wonders to little children. It requires a mind fairly developed and fairly well stored by experience to see the wonderfulness of nature or science. What thrills a man of science, what wakens his spirit and sets it agaze, is accepted by the empty and inexperienced child-mind as the merest commonplace matter of fact. It may stir his curiosity somewhat for awhile, and set him asking: "Why?"; the broader and fiercer manifestations of elemental energies—the thunder, the lightning, the hail—may startle and even fill him with fear; but the quiet, every-day workings of nature and life excite no wonder in a child's mind without the contrasts and the insight which experience has not yet given him. Little children may get much that is pleasurable and helpful from this source; but not wonder. It is not to awaken wonder that we make so much of plants and animals in the kindergarten and afterwards.

Moreover, the material which little children gain in this way from nature, being but slightly understood, and not seen in sufficiently varied applications, is sure at first to be used by them for constructions as untrue to fact and as fantastic as any in fairyland. Indeed, unless I greatly mistake, it is in this very way that the child gets his fairy outfit. Around him changes are always going on: night follows day, leaves come and go on the trees, seeds sprout into plants, buds open into flowers, eggs hatch into chickens —forces are at work which produce changes. It is natural to the child—to whom already an adult seems to have practically unlimited powers and skill—to make these forces the attributes of some person or being. His fairy queen shall have this power of transforming herself and other things. His hero shall out-do the bird in swiftness; his strength shall be the strength of ten; his purse shall keep perpetual Christmas Eve, and its contents be ever mysteriously renewed. In fact, every characteristic of fairyland can easily be seen to be directly derived from the child's observation of his surroundings; and the strangeness of the combinations is due to lack of experience, to imperfect observation, and to a strong tendency to idealize and exaggerate.

In other words, fairy stories are the natural spontaneous constructions of childhood made out of material gathered by itself, but whose conditions and inter-relations it does not yet fully understand. It is natural that in the fairy world things should suffer but little restrictions from natural laws and material necessities; and that, in order to gain the freest scope for idealization and movement, spirit, as Miss Anna Buckland puts it, should be given a kind of superior action over matter. This is why, in my opinion, children love fairy stories—far more than because they give a vague pleasurable emotion or excite wonder; and it is for this reason that I hold that such stories may be made of great educational use in the earlier stages. They are in harmony in those stages with the child's own mode of mental activity, and by using them we fulfil that great law of teaching—begin with what interests now, and move gradually and connectedly to what shall interest hereafter. I may add that it is almost exclusively among fairy stories that there are to be found tales not only suitable to little children, but also really belonging to a high form of literature, while the best of them, such as "The Sleeping Beauty" or "Beauty and the Beast," contain fresh and naïve touches of ethical teaching of the very kind we need—the brave struggle of the prince thru the tangled wood, the triumph of love that has learned to look thru an unpleasing exterior to the heart within, with many another unobtrusive lesson which lures us on to virtue.

ALLEGORIES AND FABLES.

But there are other stories besides those of fairyland; and of these I must now speak. They belong for the most part to the later stages of childhood. There are "allegories"—but these are commonly too full of abstractions and symbolisms to be very interesting to children. They may enjoy the story—as in the case of "Pilgrim's Progress"—but the symbolism, as far as it makes itself evident, rather disturbs than promotes the interest. Still, in the hands of a master, an allegory can convey a moral precept in a very striking and memorable way, and one which makes its meaning clearer.

There are "fables"; but these are too often satires to be very suitable to children. They are, however, sometimes full of real fun; and, if the laugh is good-natured and there is no sneering, they may help us now and then to criticise conduct without being unkind or too personal. The power to see the humorous side of things should not be neglected.

REALISTIC STORIES.

Lastly there are "realistic stories" and "true stories." Of the latter I need not speak here, except under the head of the general uses of stories. Realistic stories may be made of considerable use; but, from the fact that they profess to give us pictures—not mere reproductions—of real every-day life, and that real every-day life is not usually very eventful or exciting, they are apt to mislead by their writers making the abnormal, exceptional, and even the disagreeable, far too prominent in order to enliven the narrative. Just because the account of a naughty child or a very odd person or strange state of things is wont to prove more attractive than that of ordinary persons or conditions, so what is called realism is liable to give a very distorted idea of reality. Besides, it is very commonly forgotten that a story of the real cannot be real to a child unless his mind possesses the material and the experience necessary for making the required constructions; and this holds good also of true stories, which are not understood and assimilated by a child merely because they are true.

After all there are truths higher than mere matter of fact. It is possible to get closer to the true meanings and duties of life than human action gives evidence of. Bacon's realistic attitude in his " Essays " does not give us the highest truth.

There is another danger about realistic stories which should be borne in mind. When the teacher wishes to set an example of conduct before the children, it is commonly better, as Miss Buckland points out,* to place the stories in times and countries different from the present—and she instances the story of " The Good Samaritan " —so that the children may be inspired to a general line of conduct, and not be led " to a petty vain attempt to repeat what has been admired, in the hope of getting the same applause."

I take it, then, that realistic stories for children, when used for educational purposes, should be true to life and nature, and should deal with their simple ordinary laws; should have no forced moral; should introduce no feeling but that natural to the children and to the situation; and the scenes and characters should be taken from the life which is natural to childhood or which is, at any rate, easily intelligible to children. I need scarcely add that most of the stories nowadays ostensibly written for children are really for the sentimental adult. Not that I wish to condemn them—the " Adventures of Alice " are a perennial delight; but they are not for children.

EDUCATIONAL USES OF FICTION.

The ground appears clear now for a statement of what, to my mind, are the uses of fiction in education. What I say will refer to stories in general used in one part or another of education up to the age of ten or eleven.† Stories enlarge experience by giving descriptions and pictures of the practical working of much that has been observed, and of other matters similar to these; they exercise the imagination and the feelings in a fitting way; and they supply examples and ideals. They can also be used for giving information of many kinds. Stories enlarge and supply, so to speak, the beginnings of experience by illustrating the practical working of some of the simple laws which govern life. True experience can only come with years; but, meanwhile, children need something to guide them. Precepts and dogmatic teaching do not, as a rule, make much impression on them. "We may tell children that certain causes produce certain effects, but the lesson is soon forgotten: if the law, however, is shown in action in a story, the consequences remain fixed in the mind, and, again and again thru life, serve as a guide under similar circumstances." Stories show a child other children like himself living and acting together, and so enable him in a measure to make his own self objective and to form sounder judgments about that self.. They, in a sense, widen his circle of intercourse and so lessen his preoccupations with his own likes and dislikes and wishes.

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* Teachers interested in stories should read Miss Anna Buckland's admirable essay on " The Educational Use of Stories " in the present number of EDUCATIONAL FOUNDATIONS.

† Here and there I am indebted to Miss Buckland's excellent summary.

Stories exercise the child's imagination—not only receptively and imitatively, but also by supplying him with much material and many useful models for constructions of his own. A very little care in selection will enable the mode of activity to be both simple and suitable. They can be made to exercise all the simpler non-egoistic feelings, and especially sympathy, which has been called "the imagination of the heart"—and this without the often too keen and confusing excitement of real cases personally present.. The child sees the feelings of others at work and so learns still further to observe and realize the feelings of those around him, and to imagine what they will be in cases beyond his experience.

Stories supply examples, of which I have already spoken. They supply also ideals, which are still more important, not only on the ethical but also on the esthetic side. A life unstirred by admiration, unlighted by a gradual growing love of excellence, is but the life of bird or beast, not that of a human being. We must hold firmly by the natural and real, but chiefly that we may reach the spiritual beyond it. Ideals, like much else, are growths; and they must seem to us to be partly realizable by ourselves or they will have no influence on conduct, will not call the will into play. The ideals we set before the little ones should be children's ideals, which will grow into the man's ideals later on. And, in order that their partial realization may seem possible to children, we must clothe these ideals in definite forms and set them doing definite things. From the characters and actions must simply, unobstrusively, almost unconsciously, spring the moral maxims which we wish the children to adopt as their own true guides. Dogmatic teaching in this matter is quite inadequate. In no other department are stories so valuable as in this; and in this a high place must be given, I think, to the best of our fairy stories; because they are full of childhood's ideals. If the prison-house of matter of fact must perforce—even for his very health and safety—close round the growing boy, let us at least leave it here and there open to the sky.

I would not, as some educators propose, make stories, and especially fairy stories, the central predominant interest, the source from which all else must spring, in the education of children. The central interest should be for them their natural and their human surroundings—plants, animals, and human beings. It is from intercourse with these that the stories must spring, not knowledge of these merely from the stories. In what I have been saying, I have been dealing with one only of the means at the teacher's command, one only of the higher uses of fact. There are other means and other uses which have to be considered before we can decide on what shall be predominant. But, whatever may be our decision, the firm basis of all must be reality, matter of fact. There is no valuable art, there is no sound morality, which is not firmly rooted in fact, and does not grow up from thence by means of experience. But in both there is something more than matter of fact—the aspiring spirit of humanity,

> Still climbing after *wisdom* infinite,
> And always moving as the restless spheres.

We shall not compass our great ends as teachers, we shall not rear true men and women, by restricting children to matter of fact, and clipping the pinions of their roving fancies. As imagination and idealization without fact become empty, dreaming, vanishing phantoms, so fact without imagination and idealization makes man a beast of burden or a machine. H. COURTHOPE BOWEN, M.A.

DISCUSSION AND QUESTIONS.

In the discussion following the reading of Mr. Bowen's paper at the London College of Preceptors, one speaker suggested that it was difficult to say in all cases where fact begins and fiction ends. In teaching history, for example, the subject might either be taught as a mere compendium of facts, or the teacher might derive assistance from such sources as the plays of Shakespeare in order to assist the pupil in forming ideas of the characters of historical personages and of the times in which they lived. Mr. Bowen, the speaker thought, had rather ridiculed the notion of exciting the wonder of the child by the every-day phenomena of nature. He himself considered it very desirable to get the child to wonder at the most commonplace things, as for instance the falling of a stone to the ground, as in this way the faculty of observation could be most effectually trained.

What is your own view with reference to Mr. Bowen's conclusions?

What do you consider the strongest points in Mr. Bowen's paper? Give reasons.

Educational Uses of Stories.

STORIES are the child's first introduction into that grand world of the ideal in character and life; and the first and highest use of stories is to enable a child to form a pure and noble ideal of what man may be and do. A child who is taught only certain moral precepts, and who has no representation put before him of these truths expressed in characters and actions, rising above the common level, will lack the courage, the energy, the aspiration, and still more the humility, necessary to raise his own character and life to the highest standard—

> "We live by Admiration, Hope, and Love,
> And even as these are well and wisely fixed,
> In dignity of being we ascend."

A second use of stories is in the illustrations they supply to children of the laws governing life. The lessons of experience are only learnt in the course of years; and children have at once to begin to live in a world in which they are strangers. We may tell children that certain causes produce certain effects, but the lesson is soon forgotten; if the law, however, is shown in action in a story, the consequences remain fixed in the mind, and again and again thru life serve as a guide under similar circumstances.

A third use of stories is the sense they give a child of a world beyond his own; and thus, next to companionship, they serve to destroy that egotism which looks on self as center of all things. The child perceives that he stands in brotherly relation to children he has never seen or known, but who enjoy what he does, who have the same difficulties and temptations to overcome, and from this knowledge spring up a genial love for others and the cheerful courage that the sense of companionship gives.

A fourth use of stories is for the development of sympathy, or the imagination of the heart. Stories bring before a child a large amount of human experience, with which he would otherwise be unfamiliar; but by the help of imagination he can conceive what others suffer or enjoy; and thus, without unduly exciting emotion, it can be kept in healthy exercise; and the child is trained to quickness of perception in regard to the feelings of others, and is prepared for entering into joys and sorrows beyond his actual range of experience.

A fifth use of stories is in bringing the power of example to bear upon children. The true influence of example, we must notice, is not that of a pattern to be copied; children should not be encouraged to practise direct imitations of particular actions, which are held up to admiration, because this leads only to a petty, vain attempt to repeat what has been admired, in hope of getting the same applause. But the real power of example lies in the special inspiration it gives to a particular principle of conduct. For this reason, the best example stories are those taken from times or countries in which life was different from the present, so that the action may not be literally repeated, but that it may rather rouse to greater vigor the principle or feeling upon which the special action was founded. The story of the good Samaritan, with its close, " Go and do likewise," illustrates the true meaning and force of example stories.

In the use of stories in the kindergarten and earliest school years, it is important that the stock should not be too large. The repetition of a story is not tedious to children. They delight in an old story, for all the world is new to them, and they seek a rest from novelty in familiarity; just as, when the world grows old to us, we seek a change from monotony in novelty. An old story has a growing influence upon children, while the first effect of a new story is often scarcely felt. In fact a good story cannot be thoroly understood, nor can it answer all the purposes it is meant to serve, until it has been repeated many times. The notion that children's stories have in them nothing educative, that they are to be classed only among the gratifications of life, has led to their being supplied to children in such abundance that they are often only skipped thru and thrown aside. One strong plea for the use of stories in childhood is, that they may be really studied and understood, so as to serve for the true development and training of the child, and not for the undue stimulation of the imagination into a spurious, irregular life. It is scarcely necessary to say that all stories selected for educational ends should be true to the principles of good literature; that they should be simple and free from casuistry, false sentiment, and exaggerations of every kind; that they should be of bright and delicate fancy, sweet, tender, and true.

A short analysis of children's literature may, perhaps, be helpful in guiding the choice of stories. We will divide it into the usual classes of Ideal, or purely imaginative literature, and Realistic, or having a form taken from life in the actual world. Under the head of imaginative literature, we place fairy-stories, allegories, and fables. We will take the composition of a fairy-story first, not only because a fairy-story has the greatest charm for children, but also because it is really one of the higher forms of literature. The idea in the minds of many story-tellers, and story-writers too, is that a fairy-story means any jumble of incidents, in which for no distinct purpose or design natural laws are set at defiance. But the very meaning of the word "faerie" is spiritual; and if we analyze one of the genuine old fairy-stories, we shall nearly always find that there is at the heart of it some great spiritual truth, which forms the soul, as it were, of the story. The incidents of the story are all designed for the purpose of showing this truth in action; and what makes it "faerie" is, that in order to give the freest scope for the working out of the truth, fancy may create a world for the action of it—a world in which there is no restriction from natural laws and material necessities. It is in fact a kind of superior action given to spirit over matter.

We may illustrate the composition of a true fairy-story by a brief analysis of "The Sleeping Beauty." The inner truth at the heart of this story is, that hatred works death—"he that hateth his brother is a murderer"—but love is stronger than hatred, and it is thru love alone that the works of hatred are to be destroyed. First there is the christening of the new child; at the very beginning its life is threatened by the hatred of the malignant fairy, out of revenge because she was not invited to the feast. The child is to die, tho the curse is afterwards changed into the death-like sleep, which is death as regards all the purposes of life. The king tries to defeat the curse of hatred by the unspiritual means of destroying all the spindles in his kingdom; but this, of course, is of no avail. The day comes when, in spite of this precaution, the maiden finds the wicked fairy spinning. She takes the spindle, pricks herself, and immediately sinks with all the world around her into the death-like sleep. Around the castle grows the thick hedge of thorns and briers, as high as the towers, so that it cannot be leaped over; and this is set by hatred to prevent the entrance of love into the world of death. Then one after another the princes come; they wish to see the beauty of the sleeping maiden; but this desire cannot carry them thru the thorns and briers. A hundred years pass away, and the curse of hatred still works; time, that all things else destroys, has in itself no power to impair the strength of the curse. At last, in due time, the true prince appears. He is counseled by prudent people not to try to enter the castle, for he cannot do so but thru suffering, and the end may be only death. But the prospect of suffering, or death, cannot daunt him; love is stronger than fear and the instinct of self-preservation. He approaches the hedge and the thorns and briers are to him but as fragrant roses—this is the first victory of love over the obstacles placed by hatred in the way of ultimate triumph. The roses close behind him, and become again thorns and briers; love can carry him forward, but there is no smoothing of the way for retreat. At length he enters the castle. The whole world within shares in the sleep of death. The dogs in the castle-yard, the pigeons on the roof, the flies on the window-panes, the servants in the kitchen, the courtiers, the king and the queen, all lie under the power of hatred. At the first expression of a love which can "give and hazard all," the whole world of death wakes to life, with the freshness and vigor of a new spring-day. The deadly curse of hatred is destroyed; thought and work are filled with energy; everything is in action. "And they all lived happily to the end," is the conclusion of the fine old story.

If we analyze in the same way any other of the genuine old fairy-stories, such as "Cinderella," or "Mrs. Holle," we shall find that the play of fancy is not the mere irregular wandering of a dream, but that there is distinct unity of design in the incidents, while at the heart of all of them lies some great immortal truth, which gives them their hold on generation after generation, and will preserve them in the perpetual freshness of child-like beauty as long as the world shall last.

It is in contrasting the old fairy-stories with such books as "Alice's Adventures in Wonderland" that we feel the more strongly the artistic perfection of the old stories. Natural laws and ordinary combinations are set aside in the Alice books, not that fancy may have free scope to create a world for the working out of any great spiritual truth, but only for the sake of the odd effect which incongruity produces. It is Wonderland, but it is not Fairyland. There is humor in the incongruity; but it requires familiarity with ordinary laws and combinations to feel the humor of the incongruity; and children are much less struck with the odd effect than older people; as a little child once asked—"Why *shouldn't* a walrus go out with a carpenter?" Children miss also the slight satire which underlies some parts, and, together with the humor, gives to the bright fancy of these books a charm for older readers.

Allegories are more spiritualized than fairy-stories, and have less of human interest. In an allegory, the personages of the story are not human beings, but represent single abstract qualities. The scene also of the story, tho taken from the material world, is composed of objects, most of which are symbols. There is consequently less unity of idea, and less unity of art, in the construction of an allegory. They serve good purpose in direct religious teaching, and in moral training. They are useful also in training children to understand symbols, and to see readily the relation of form to essence and the fitness of certain material things to express abstract qualities. This will prepare them, not only for the later study of our great classic allegories of English literature, but also for the understanding of poetry, and of many parts of the Bible; and will enable them to see in Nature, not only the beauty of material form, but the deep truths she teaches, so that—"The earth and common face of Nature" may speak to them "rememberable things."

Fables are stores of imagination, in that speech is given to animals. The essence of a fable is the representation of the faults and follies of human beings, as reflected in the sayings and doings of the lower creation. A fable is therefore necessarily a satire; and this is an element of literature which it would be dangerous for children to learn to love for its own sake. It requires, therefore, careful use in the kindergarten, and should be reserved only for minor faults common among the children themselves. A good-natured, hearty laugh at the reflection of ourselves in a fable is a very wholesome thing; but if the laugh is a sneer at humanity, there is a fear of destroying reverence and love.

Realistic stories are those best fitted for illustrating the laws by which life is governed, and thus showing to children that the consequences which follow conduct are as sure as the sequence of cause and effect. A good realistic story should consist of one general law of life, shown in its ordinary legitimate action. The scenes for the action must be the real world of human character and life. Tho a realistic story is thus a sketch from nature, it must be a *picture*, and not a mere *photograph*. The attempt to imitate exactly the sayings and doings of children, as in the books called "Helen's Babies" and "Totty's Book," tho very amusing to read, is not real literature, because there is no artistic purpose or design in them. Jane Austen's novels are some of the best examples in literature of good realistic stories. There is in each a distinct, intelligent purpose, which is artistically worked out in characters and scenes, drawn entirely from the living around her.

As one object of realistic stories for children is to accustom them to expect certain results as the consequences of certain actions, it is important that they should deal with the simple, ordinary laws of life, and not with paradoxes or exceptions. In mature literature it has been the work of some of the finest master-hands to show how the action of a lower law may be on occasions set aside by the intervention of a higher, and that we have to take into consideration a wider range in predicting results; but exceptions only puzzle children, who use them at once for generalizing, and it is important to establish first the general law as the common rule for conduct.

Extraordinary stories, in which wholly inadequate means are represented as producing desired results, lay the foundations of idleness and recklessness of consequences in after life, and are the cause of much bad work and senseless disregard of natural laws. Perfect truthfulness to nature is essential in a good realistic story. The incidents must be such as naturally follow certain causes; the characters must represent real, living children of the true type, not precocious exceptions; and the feeling must be neither of a kind unusual in a child, nor of a degree beyond what the situation requires. Children so soon detect falseness, and every attempt to produce impression by exaggeration wakens distrust in the mind of a child, almost unconsciously to himself.

A realistic story for children must not only be true to life, but the characters and scenes should be taken from that portion of life which belongs to children. It is a principle of the best school of literature, that all subjects are not subjects for art; because art has a purpose of its own, which is not answered by the merely artistic treatment of every kind of subject. The highest function of art is to lead the mind to the love of the beautiful in nature and human life; and in mature literature the glory of the highest ideal cannot be shown without showing the hard conflict, the upward struggle thru darkness and evil to the last victory of light and duty; but the introduction of mature evil into children's literature, before they have to enter into conflict with it, and before faith has taken such root as to assure the final victory of good, has a most injurious and depressing effect upon a child's mind. It is needful for the teacher to keep this in mind, because so many stories for children have appeared of late depicting the low current of life in the city slums, and dealing with the mature sins of drunkenness, brutality, and coarse vice. True temperance stories for children are those in which the nobleness of self-denial and control over appetite is shown; and feelings of compassion for the erring are most truly and effectually trained in childhood by calling out pity for a companion in age who has yielded to a mutual temptation. The world of the poor belongs to the life of children; and stories of the poor, of the hardships they have to endure, are useful in awakening sympathy; there are also in such stories to be found the highest examples of patience and unselfish love.

Stories that belong to other subjects of culture have also their place; but these may be left to their own special lines. Such are Bible stories, natural history stories, stories of travel and adventure, biography or history.

THE ART OF TELLING STORIES.

It is sometimes said that telling stories is a gift; but it is only an art, more easy at first to some persons than to others. The chief reason why some persons cannot tell stories is because they have "no story to tell." They have only a dim, confused picture of one in the mind, and the first thing to be done is to get this vague image perfectly clear and vivid. For this purpose, it will be necessary for them to read the story over several times; and in order to be sure that the impression is strong enough to reproduce it accurately, and *without any hesitation*, it may be useful to write it from memory, and compare it with the original.

The next thing is to look for the leading idea, or inner truth, of the story, and then mark the strong points of the narrative. They are the features that express the soul, as it were, and in telling the story they will require the greatest prominence; and if the teacher supplies additional details, these should all tend to the further illustration of the leading idea. Children love details, but unnecessary particulars only confuse and destroy effect. If, for instance, a room has to be described, the first point to be determined is what idea the room has to express, as poverty, cheerfulness, disorder; and then only such details as strengthen the idea, and conform to it, need be given. Teachers who picture Bible scenes often quite destroy the effect of the narrative, because they do not preserve the relation between the details they supply and the leading idea of the story.

It is better in narration to keep to one single line, and avoid episodes; for children easily lose a thread; and if their interest has once been diverted, it is difficult for them to return to the former line. It is often necessary, therefore, to sacrifice the idea of the simultaneous action of two lines of narration in order to complete one, before taking up the other. For instance, in telling the story of the First Book of Spenser's "Faerie Queene," to a class of children from twelve to fourteen, it was found necessary, at the part where the Red Cross Knight and Una are separated, to continue the adventures of the Red Cross Knight up to the point where he meets Una again, and then to take up Una's story, and tell that continuously to the same point. Spenser, it will be remembered, preserves the idea of simultaneous action, by taking up the story of each in alternate cantos; but children, even of that age, were incapable of carrying on the two lines of narrative at the same time, and tangled the threads of the story.

It is desirable in the repetition of a story to keep as nearly as possible to the first version of it. Children see at once the details of a story, and retain a vivid impression of them in the inward eye. They are always ready to correct the slightest deviation from the original with a serious air of reproof, for it is associated in their minds with a want of truthfulness. Thus in telling a story, it was once said there were *three* plates on the shelf. Every bright little mental eye saw the three plates, as plainly as possible; and when, on repeating the story, it was said there were *two* plates on the shelf, an indignant exclamation at once arose,—"There were *three* plates, last time there were *three* plates." A charitable little child suggested, "But perhaps one has been broken since last time;" the general feeling, however, was, that the second version was not strictly truthful.

Conversations have much more effect if related in the first person; and this form also gives the story-teller opportunity for varying the voice and manner, according to the character of the speaker. Children always begin to brighten into eager interest as soon as the story becomes dramatic; and more feeling can be given to the touching passages.

The use of expectation and surprise is helpful in keeping up the interest of little children, and questions and guesses recall their attention at once, if it should have wandered. If, however, these are used too much, children sometimes become rather confused between the guesses of the class and the facts of the story.

The difficulty of telling stories to children is one which, like all others, disappears by practice. Persons who are unaccustomed to be with children often fancy they cannot tell stories, but if they only get the outlines of one story thoroly and clearly impressed in their own minds, and repeat this story a few times to children, they will find that very soon they can tell it easily and well. They can then in the same way try another and another. It has been well said that the best way, when you think you cannot do a thing, is to go and do it. And certainly there is no art in the world which can be learned only from directions, nor is there any talent so great that it can attain success without practice. ANNA BUCKLAND.

QUESTIONS.

1. Enumerate the principal educational uses of stories.

2. (a) Wherein may be found the real power of example as an educational factor?

(b) What stories are best suited to influence conduct?

The questions here propounded aim at fundamentals. They should be studied and discussed with special care.

3. Discuss the art of story telling and indicate how teachers may develop skill in this art.

CHILD STUDY AND CHILD TRAINING.

Some Causes and Effects of Fatigue in School.

THE causes of fatigue are many and various. Lack of rest or overwork may be responsible for it, as may also malnutrition or absence of cleanliness. The serious mental result of fatigue is, broadly speaking, a relapse into the animal method of non-reasoning. The human being ceases to be rational when under the effect of fatigue.

It is plain that children having less power of resistance than adults, suffer particularly from these conditions. Every effort, long enough continued, or indulged in too intensively, produces fatigue. Interesting investigations have been made in regard to the fatigue values of the different school studies.* The daily program of exercises must therefore be carefully planned in order to balance the pupils' powers of application. Forenoon and afternoon work must differ in character, as surely the different hours of the day have different energy values for the children, individually and collectively. Recesses should be systematically distributed, to afford relief and recreation at the proper junctures; the length of the instruction periods must be adjusted to the fatigue values of the studies referred to before. A change of employment, tho generally having the function of relief, is not in every case recreative.

Thus Ellis says in his "Philosophy of Education": "Nothing is more demanded now than a thoro study of various methods of rest and recuperation; for upon capacity to rest depends capacity to work. The experiments of Mosso, Keller, Emminghaus, and others, show the rapid wear of the mental and physical organism in all kinds of work, and indicate the great advantage of short periods of work at high pressure alternating with short periods of rest; but just what gives the greatest rest is as yet a subject of dispute. This much does seem certain that intricate calisthenics and exercises demanding strong attention, or great physical exertion, do not properly rest a brain tired from study. The need for a long period of continuous sleep, especially long in youth, is impressed ever more firmly; but in what way to spend waking periods in order to best rest and recuperate for renewed efforts is still entirely unsettled ground. The matter of temperament and individual peculiarities will, of course, ever complicate the problem."

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*Cf., among others, Dr. Ferd. Kemsies, "Arbeitshygiene der Schule auf Grund von Ermüdungsmessungen." Berlin, 1898.

Fatigue, it ought to be noted, is often due, not to overstrain or hygienic neglect, but to poor training. It will manifest itself when children have not learned the best method of applying themselves. When there is lack of interest and inspiration, fatigue will speedily result. More frequently, of course, it follows over-exertion —a tension of the attention and energy which may even succeed in overcoming the first stage of fatigue and calling forth what has been denominated "second breath" will end in a still more serious collapse.*

Edward D. Meek, in the *Ohio Educational Monthly* of Oct. 1899, gives this list of fatigue evidences:

Physical fatigue: 1) Angles of mouth depressed; 2) furrows across forehead; 3) eyes wandering; 4) coloration beneath the eyes; 5) white line around the mouth; 6) bluish spots on cheek and neck; 7) pulse unusually slow or rapid; 8) frequent attacks of headache; 9) awkward position of body; 10) neurasthenic voice; 11) unnatural action; 12) general appearance of depression. *Mental signs:* 1) Lack of ability to give attention; 2) weakening of perception; 3) unreadiness and inaccuracy of judgment; 4) diminished power of insight; 5) loss of sensitiveness; 6) lack of self-control; 7) lessened work-rate; 8) lengthened reaction time; 9) deep sense of misery in the morning; 10) one or more insistent ideas which cannot be thrown off.

The writer of this list, as quoted by *The School Journal* of Oct. 28, 1899, does not claim that these signs always indicate fatigue. "Many of them," he says, "may often be traced to other causes. The effects of tediousness and monotony are shown more readily in children than in adults. Lack of enthusiasm and interest, loose methods of teaching and senseless practices in discipline bring about results which the unreflective often attribute to fatigue. Careless habits and a lack of economy of energy may produce a mental or physical condition similar to that caused by overwork."

Lack of exercise, sedentary habits, are as apt to lessen vitality, producing a kind of chronic fatigue, as is overstimulation. Girls in the pubescent period suffer particularly from too sedentary and confining a life. In his study on the "Medical Aspects of Child Study"* Dr. A. A. Himowich exclaims: "These facts are more than convincing that for the period of puberty the curriculum of study should be so arranged as to counteract sedentary habits and encourage outside work. In a word, the work must be so arranged as to keep the pupil's mind continually occupied in healthy and pleasant activity." This consideration alone would prove the great value of excursions in connection with nature, geography, and history work, even if these had no claim as excellent methodical devices. And the demand for manual training, apart from its tremendous importance educationally, also has its function as healthy bodily exercise. The recreative and inspiring effects of games, gymnastic, and vocal music are evident. Rhythm and rythmical movements will enhance and stimulate physical exercise.

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*Cf. G. E. Partridge, "Second Breath," Pedag. Semin. IV, 3.

*The School Journal, Sept. 28, 1895.

A factor which operates in a marked degree against the natural vitality of children is the dull routine of the school-room over which a mechanical teacher presides. Thus W. P. Manton writes:

"Monotonous routine in the school-room, exacting exercises, and competitive tests, all tend to lower the vitality of the children, thru their effect on the nervous system, and may be productive of serious or even grave disorder. The overheated and poorly ventilated school-room, with its minimum supply of fresh air per pupil, improper seats and desks, provided without reference to the requirements of the individual, but for the accommodation of the masses, and the absence of personality in the system of instruction, are one and all active agents in sapping the vitality of the children. The absence of oxygen in the school-room atmosphere renders the awakening mental faculties sluggish, if, indeed, it does not entirely stifle them, and improper furniture gives rise to spinal deformities, muscular feebleness, nervous derangements, and ocular impairment. . . . Physical growth is not continuous in the young, but takes place in stages with periods of quiescence or rest between them. It is during these resting periods that children are most liable to contract disease. It is reasonable, therefore, that at these times they should receive additional care and consideration."

A very pronounced difference has been observed in the rate of growth during the summer vacation months from that of the growth during the ten months of school; children gain as much during the two months of July and August as they do the rest of the year.

The bodily development of children as affected by their attendance at school has been studied for several years by Dr. Schmidt-Monnard, of Leipzig. He finds that:

1) It is difficult to trace with accuracy what effect school attendance has on the growth of children and on their increase of weight; but it can be demonstrated beyond reasonable doubt that children in the first year of school attendance gain less in weight and height than they do in preceding years; namely, only one kilogram (two and one-fifth pounds) in weight compared with four in earlier years, and five centimeters (two inches) in height com-

pared with seven before; and that the average proportions in this respect are not again attained until in later years; and, further, that children who do not enter school until their seventh year are stronger and better developed physically than those who enter a year earlier.

2) Acute diseases are not caused by school work but can be traced to hygienically defective school-rooms. Lack of cleanliness, of fresh air and light decrease the ability of children to resist the attacks of contagious diseases.

3) Chronic troubles, such as weakness, headaches, insomnia, and nervous disorders in general, are found to a much greater degree in schools of higher grade than in the elementary schools. Their steady increase can be traced in the case of girls to the age of puberty, frequently afflicting as many as 50 per cent., while in the case of boys, the highest percentage is 35 per cent. After that age, in consequence of the increase of weight, these physical ailments decrease to 27 per cent. in the case of girls. Eight per cent. of children about this age suffer from insomnia caused chiefly by social excitements at home. In the higher grade of schools for boys, especially when there are no afternoon recitations, and the pupils are compelled to take exercise, the percentage of sickness varies from 20 to 39; while in the case of schools where there are afternoon recitations and no enforced exercise, the percentage runs up as high as 79. Eighteen per cent. of boys in such schools complained of insomnia.

4) The cause of these troubles is to be found largely in the extra work assigned to children at home, such as drawing lessons, music lessons, and the like, as also to the fact that in many schools physical exercise is not made compulsory as it should be. (Quoted in EDUCATIONAL FOUNDATIONS, April, 1900.)

The effect of examinations upon weight has been studied recently by Dr. W. Ignatieff (reported in *Zeitschrift für Gesundheitspflege*, No. 2.) Two hundred and fifty pupils of the surveying school in Moskow were measured on the last day of the school term and on the last day of the following examinations. Each of the 22 members of the intermediate class whose examination extended over a period of 52 days, lost about 3.5 pounds. In the case of some individual pupils of the special classes, the loss reached the figure of 4950 gram. Great care had been taken by the administration of the school to establish favorable conditions thru proper nutrition, long recesses and periods of rest, also ample time for sleep. The only factor responsible for the detrimental effects were the examinations. MAXIMILIAN P. E. GROSZMANN, Ped. D.

Nervous Disorders in Children and Their Educational Treatment.

TO begin with, I would make it clear that I do not believe in any definite standard of nervousness. We have not to consider nervousness, but individual nervous children, and the various symptoms or evidences of nervous disorder which we have to meet and counteract. The individuals do certainly fall into some fairly well marked groups. Some children are found wanting in ordinary mental capacity, and are ranged among the feeble-minded or the idiotic; others seem to be out of place in their present social surroundings, and I have called such "Misfits"; then a still more important group contains the children whose weakness is evidenced chiefly or solely by moral faults.

Wholesale teaching is not of much use with specially defective children. The work of specializing and selecting the aberrant children has been steadily going on for some years now. Dr. Warner, of the London hospital, has spent a great deal of time and attention on the subject, and I served on several committees with him, the result of the work being that over 100,000 children in various schools were examined and the relative numbers of these not fit for general school work were noted, and at the same time certain signs of nervousness were discovered and used as measures of the degree of nervousness present in the children.

In London and several of the larger cities now there are special schools with efficient teachers for the nervous children who are unfit for the ordinary training. It was long ago pointed out that by thus catching the nervous children early, tramps and even criminals were prevented from developing. I merely mention this in passing to show you how important an element the nervous one is in education.

We must, of course, not expect that the markedly nervous child can, by special training, be made like his healthier brothers. In each child we have to consider how much good is possible, and aim at a definite end which is not too high. A general principle is that in teaching the nervously weak, the lines of least resistance must be chosen. It will not do always to follow inclination or even capacity without reserve, but the object will be to seek where resistance, organic or moral, is least.

It will follow that in some cases where there is precocity it is well to develop the faculty which is present, rather than to attempt to divert it. Precocity may be the prelude to genius, but more commonly it leads only to folly and disappointment. It seems as if there was a blaze which exhausts the nervous material.

In considering the education of nervous children, one cannot begin too early to observe the child and his surroundings, for in infancy the starting points of evil commonly arise. And therefore children who in infancy have had convulsions, who have suffered severely from infantile complaints, such as whooping cough or measles, or those who have had injuries to their heads, should be watched with great care. No malady is too light to be neglected in the earliest years. The tender plant can resist but little. The child who is backward in walking and in talking should give rise for consideration as to his future training.

When and how shall the earliest teaching be begun? In nervous children, or those who have had nervous illness, shocks or the like, formal training should begin later than in ordinary children. Education of a kind begins with the earliest sensory impressions, therefore, as the authoress of *The Mind of the Child* makes clear, the surroundings of the child should be healthy from the first, but I fear this is rather more than human. That healthy surroundings and calm tempers, and pleasing, not chastising, influences should drive the machine is evident. I believe in early educating the observing faculties steadily and uniformly. The bright lights, the pleasant smells, the sweet songs, should be associated with the unconscious foundations of mind. I am strongly against the early teaching of reading, and I am rather glad to find that even adults are becoming aware of the easy and pleasant way in which knowledge can be gained thru looking at illustrated papers. These were the occasional weekly treat, now they are the daily food.

The nervous child may be precocious and require to be checked and made to live a simple observing life, but more commonly the class of child with which we are chiefly concerned is backward, and I shall now go more fully into the subject of backwardness.

BACKWARDNESS OF CHILDREN.

Many brilliant men have been slow in developing. It is here as in other things in nature, the more elaborate is often delicate and slow in growth. There are several very distinct varieties of backwardness met with as hindrances to education.

First, I frequently see children, generally boys, who have truly outgrown their (nervous) strength. They have big bodies, but the controlling power is wanting or deficient. Such, if not specially looked after, tend to become gross animals, vicious or depraved, but rightly handled they may become some of the most strenuous of the world workers. They require to be fed, exercised, trained to observe and obey, but not to be taught much from books for a time. It is surprising how rapidly such boys pick up when once they have got the right start.

There is a backwardness which depends on past ill health or present bloodlessness, and in such cases there can be only one piece of advice. Let these children run wild, but be careful in selecting the "wild."

Lastly, there is the truly, I would say, organically backward child, who really falls into the class of feeble-minded. Such children may be healthy in body, they may possess their senses, and they may have a pleasant plausible manner, yet they may be hopeless as far as real development is concerned. Tho they vary, yet I think the most common form is that in which all grasp of abstract things is wanting. The child may read and write, but he cannot be made to understand the simplest rules and practice of arithmetic.

It would surprise some of you if I were to tell you of the young men and women about whom I have been consulted who have as complete a want of the arithmetical faculty as the blind man has of light. It is simply waste of time and energy to attempt to teach these children anything of that kind, tho they manage to get on pretty well without it.

SPECIAL DEFECTS.

We have thus briefly considered the disorders which may affect development from infancy, and the so-called backwardness. Now we come to consider the children who seem to have some special or particular want, and I shall divide these according to the following plan:

(1) Those with defect in receiving capacity, that is, those with defect of the senses and defect of memory.

(2) Those in whom the defect is rather the logical or associating faculty, those in whom the relation of past to present, between cause and effect, is not perceived.

(3) Those in whom there is some defect in the reaction to the outer stimuli, so that the conduct is not normal, tho the perceptions and powers of organizing seem normal. In these last we have the morally defective, those in whom the social misfits occur, and who approach the criminal.

It is unnecessary for me to refer to the classes of those who being deficient as to their senses need special training; the blind, the deaf and dumb form the chief examples.

LACK OF MEMORY.

First then as to defect or peculiarity in the storing capacity, as to the peculiarities of memory. This power differs in degree and in quality to an almost endless extent, and is probably a more constant and unalterable quality than is generally thought. Abstract memory is but slightly improved by exercise, while memory of association is greatly improved. Memory is so clearly connected with interest and attention, that when the power of application or attention is wanting, the memory is necessarily weak. Some of the most useless memories are to be met with in the weak-minded. In such persons there is an accumulation of facts which are of no use for reference or for organization.

After all, knowledge is the result of forgetting. He knows most who has forgotten most. In some children restlessness is associated with defect of memory. They flit from subject to subject without taking time to form a clear image of what they have seen or heard. In these children, steady, slow application of interest and even lessons in being "still" may be of use. The endless questioning of children is natural enough, but if the child never seems to learn by the answers, I think the best plan is to expect him to be able to repeat the answer to the last question before you reply to his next question. This will check the useless flow of questions and fix attention on some answers.

Great difference of opinion has arisen in regard to verbal memory and its place in education. For it there are no doubt arguments such as the storing the mind with good ideas well expressed, also that it leads to exactness of expression, but I find that the children who can learn verbally rapidly do not store; they forget almost as rapidly as they learn, and their memories are not really strengthened. On the other hand, many children are absolutely without this type of memory, and I believe the more original minds are not as a rule good at verbal learning, and the struggle to learn by heart is great, and I do not think the result compensates for the pain. I think the method by which "Kim's" memory was tried and trained was a good one. The placing of many various things before a child, and getting him to recall accurately their number and forms is of much more service, and I think is more suited to many of the rather peculiar and restless children of whom I am speaking.

As when speaking generally, so in detail, I would impress on you that memory varies with physical conditions, and I constantly meet with children whose memories are weak because their bodies are badly nourished, and a cup of cocoa or a piece of chocolate may be more efficient than a cane.

EVENING WORK.

Now as to evening preparation for school, I am rather in favor of it, so that the child, if nervous, does not go straight to bed from his books. It is certain many lessons half known at bedtime are known in the morning, after good healthy sleep, but I think the child should not be over tired, and a few minutes' play and a little food is good before bed. Sleep, as the hypnotists have shown, is a great fixer of good resolutions.

DEFECT IN MENTAL ORGANIZATION.

Next, as to defects in the organizing and arranging of experiences. Many weak-minded children fail to connect sequent facts. They do not connect cause and effect, and fail to appreciate the painful impression associated with punishment following faults. In such cases, if there is physical illness or backwardness, this may pass off, but in most such cases the defect is organic, and cannot be got over. Children with this failing may be incorrigible, they may be selfish pilferers or impulsively injurious, or they may even pass for quiet good-natured children, who are easily led into mischief. If they are not physically weak, some sort of punishment or corrective must be tried, and the only thing to do in this way is to be consistent and persistent, so that the punishment follows without anger, but as a constant result; the repetition of correction in some cases has the desired effect, some nervous children requiring many repetitions, while the healthy child would only need one or two. I admit that from time to time I meet with children who seem to be beyond the sane pale, their actions appearing to have no relation to their surroundings or their experience.

ABNORMAL REACTION.

The last group is that in which the children have normal experiences. Their senses are normal; their memories appear also natural; they are able to judge of cause and effect; yet they are morally incapable of doing right. It has long been a question whether there should be recognized any class between the sane and the criminal, which should include such persons as these. I have no doubt, from a very large experience, that there are certain children who may be called morally imbecile, just as there are elder persons who are morally insane.

GENERAL CAUSES OF NERVOUSNESS.

Before going further, I think it well to introduce the general causes of nervousness which are met with in children. First, it may be an inherited organic defect, or it may be acquired in early years. In this class we have illnesses in early years as a starting-point. Fright, injury to the head, or shock may cause the trouble. The more definite the cause of the nervousness, that is, the more evidently it depends on an organic brain defect, the less is the hope of doing any real good.

That nervousness is transmitted makes it pretty certain that it is harmful to bring up nervous children at home. The nervous mother accentuates the nervousness in her daughter, and I would still more strongly urge the importance of not bringing up a nervous child with his brothers and sisters. Nervousness may be developed, almost caught, by relationship with nervous children.

Among the signs of nervousness which are commonly transmitted are tricks of manner and slight habits. I think it is well not to make much fuss about these unless they interfere with the comfort of the child or his parents. It is noteworthy that tho genius is rarely passed from parent to child, slight tricks and habits are. It is the slight variations which seem easily transmitted.

Nervous children may show their weakness by various alterations in their food appetites. I look upon it as a serious symptom when a child has marked fads about his food. I have known children who from the earliest months seemed to have no longing for food, no instinct for eating. I think it should be recognized too that in eating we readily see the presence or absence of the finer conventions of social being. If a child of five years cannot be made to eat and drink like a civilized being, but persists rather in following the ways of lower animals, the prospect of doing him good is slight. In such cases generally there are other signs of mental weakness.

In a similar way the child may be wanting in general ideas of cleanliness. The unregenerate boy does not take to water naturally, and some never can be taught the difference between cleanliness and dirt. Girls, on the other hand, exhibit not infrequently an exaggerated tendency to washing, and unless guarded against, a distinct morbid habit may arise. I say that cleanliness may be next to godliness, but that immoderate washing is like over-conscientiousness, a morbid unhealthy sensitiveness.

So it must be remembered that the simple conventions of society may help us to judge of the nervous defect which is present in a child, and the neglected habit may grow into a vice or an insanity.

TREATMENT OF VARIOUS ABNORMALITIES.

I have already said that delay in learning to speak is associated with nervousness in children, and further, it must be recognized that nothing is more common than to meet with some affectation of speech in such children. This may be anything from a slight arrest in articulating words to extreme stammering. It is certain that such speech defect should be definitely taken in hand, fairly early. If thus met, it will almost certainly be cured.

Nervous children are supposed to be emotionally unstable, to form as it were the starting points for hysteria, and there are special forms of emotional weakness which must be considered. First, then, the so-called "rages." I have known very young infants, the children of neurotic parents, who seemed from their earliest years, almost months, to be subject to causeless and impotent passion. I have known such infants, if in any way interfered with, as in their feeding, to pass into a rage, which seemed to be in danger of ending in a convulsion; then almost as suddenly the storm passed, and the child now smiling placidly may fall asleep. I do not wonder that some mothers have told me they believed their infants were possessed by the devil. In some of these children these rages occur for many years, and may become habitual, the slightest cause producing a storm of alarming aspect.

I think there are two distinct types of this disorder. In the one the child outgrows the fits of passion—the disorder may be called functional, in the other fits are nearly allied to epilepsy, and are very hard to deal with. It is no good punishing, physically, children for such outbreaks, and it is equally useless and harmful to put the child in a dark room. A calm attitude and judicious neglect are the best means. If the parent or nurses get into a panic, it is certain the child will become worse. I believe in treating these conditions as illnesses, and just as if the child were threatened with a convulsion, a hot bath might be given, so with all ceremony I would have a warm bath prepared for the child in a rage. In the more grave cases, some drug, such as bromide, may be of service if medically directed. I have met with children who in these rages are really dangerous, and would kill or injure those about them.

Allied in some way to these conditions may be mentioned the cruel tendencies of some children. We, most of us, know the pleasure of power, and this, unrestrained, may lead to cruelty. Tho I oppose as a rule corporal punishment, yet in cases of cruelty I believe in making the sinner suffer. Here again let the punishment be judicially applied—I have even suggested a kind of grace before punishment. Cruelty in nervous children may be the outcome of ignorance, or it may be the result of nervous terror. Probably no greater cruelty is done than by those who are in a panic.

A child's healthy tone can be judged greatly by its social qualities. The healthy child is companionable, gregarious, while the morbidly nervous child seeks solitude. I constantly have to advise about children who, like Shelley, prefer to be left all alone, to read and contemplate. One of the dangers which children who are crippled, like Byron, or are disfigured run, is that they are isolated. Of course, in the earlier years, such shy, nervous children are not fit for the life of large or public schools. They require slowly accommodating to wide surroundings. Another of the dangers which the solitary child runs is the habit of constant reading of books. Like the child who in earlier years does nothing but ask questions, so the solitary child is given to reading without digesting. In some of these I have seen the reading degenerate into little more than a constant stimulation of the eyes, the absence of a book being felt as a want, just as removal of air, which leaves the terrible feeling of anxiety. I believe the best plan with the solitary children is to try to find one or at most two companionable children, and as it were link them, giving special individual rivalry as the stimulus to work. In these children, as they grow older, it will be found that racquets or tennis, rather than football or cricket, help in developing the social instincts.

MORAL DEFECTS.

I shall only have space to refer casually to the moral defects which may be evidence of nervous weakness in children. I would repeat that there may be every degree of moral defect associated with every degree of mental ability. Lying is a common fault of the normal and the nervous child, but it is remarkable in its degree in many of the nervous children.

I think the romantic lying, which is frequent, is a kind of tentative growth of the imaginative faculty and need not cause much anxiety. It is nearly always outgrown. Judicious neglect or amused scorn will be efficient in killing this. I have on several occasions met with children who with recurring physical illness have developed the habit of romancing. It may thus be intimately related to delirious conceptions.

The boy or girl who is not a romantic but a malignant liar is generally more nearly allied to the degenerate or the criminal, and is altogether different. With such children consistent firmness, with judicious punishment, are recommended.

Lying may be the outcome of nervous weakness and a general dread of consequences. In such cases one can only do one's best to give confidence by encouragement rather than punishment. Pilfering and thieving are more often met with in the nervous than the healthy child, and here again I have met with honest-minded boys who have for a time become pilferers as the result of physical weakness and nervous exhaustion, due to improper or over-work. Some are romantic thieves, stealing not for their own gratification, but to give away to others. They, too, have a sense of the pleasure of power. They like to communicate and appear important. I have known the romantic thief to develop into the confirmed habitual kleptomaniac.

In treating children accused of moral faults, there must be no doubt about the evidence against the culprit. I have known terrible results following false accusations. Steady, consistent treatment, rather than punishment is recommended.

DEFECTIVE SLEEP.

One of the most important elements in normal child development is healthy sleep, and nervous children frequently show their weakness in defective or disordered sleep. Sleep is for the brain what food is for the body. The nervous child should have some light warm food just before going to bed. In some wakeful children I have seen good results follow what may be called domestic hypnotism. The mother or nurse gently pressing on the eyeballs of the child, and softly repeating "now go to sleep." Thus the eye-pressure with the lullaby are combined, and tho half an hour may be required at first, soon the time is shortened, till I have known it only to require a moment's suggestion and sleep follows.

Many nervous children dread being left in the darkness, and I think it is best to allow a small light for some time, and then slowly try to reduce the time it is used till in the end it is discontinued, or, what is equally good, the child is shown that the light unlighted is ready if required at any moment. The nervous child often is subject to dreams of an alarming nature, and it is therefore well to have some one sleeping in the same or an adjoining room. It is best rather to ignore the dream fancies of the child, otherwise they begin to look for and cherish these.

Nervous children are readily upset and liable to have light delirium from slight causes, and some, in the half waking moment, have visual hallucinations. In such cases, the child had better be awakened rather earlier than his usual time for a short period, so as to break the habit. Talking in the sleep is more common and more habitual among nervous than among healthy children, but may be ignored, except that it is better that a child who talks much in his sleep should have a room to himself.

Somnambulism is also a common symptom, and must be guarded against, the windows being barred or the bedroom being on the ground floor. Fortunately, in most cases the habit of somnambulism is outgrown. Plenty of fresh air night and day, simple food, and restfulness before bedtime are the best means for insuring sleep with nervous children.

PRECOCITY.

The subject of precocity, to which I have always referred, is too large for me to treat here. It is commonly developed along the musical, artistic, or memory sides; it may appear in a calculating prodigy. I think means should first be tried to develop other parts and interests along with the special gift, but in some cases all this fails, and you will have to educate along the special lines or not at all. This, of course, involves special training, for no schools are fitted for prodigies.

PEDAGOGIC CONDITIONS.

In closing I would wish to impress on you the necessity of calculating in each individual child the amount of good which training can effect. Nervous children need to be taught in smaller groups, rather than in classes; in many cases two is the best number. Having decided how much is to be expected, a definite line must be selected and stuck to, for no good can come of constant or frequent change of plan in these children. They are inconstant themselves, and need steady, consistent, and persistent effort. One must never forget that there may be some temporary and removable physical hindrance to development, and this must be first treated. I believe much more in the leading in good paths rather than punishing for straying into bad ones. Many nervous children are sensitive plants containing in their readily reacting natures great capacity for good as well as frequent tendency to evil. As much depends on the teacher or parent as on the child in many cases.

George H. Savage, M.D.

QUESTIONS.

1. What general principle should govern the teaching of nervously weak children?
2. What lines of child study will yield best results as regards the discovery of nervousness in children? (Describe in detail.)
3. Discuss the backwardness of children, and suggest rules for education.
4. Mention special defects in children which are most frequently noted at school, and describe appropriate lines of treatment.
5. Write out twelve rules for educators of nervous children.

HISTORY OF EDUCATION.

The Life and Educational Labors of Comenius.

(Concluded.)

Comenius left London for Sweden in August, 1642. After a few days spent with De Geer at Nord Koping he went to Stockholm with introductions to Oxenstiern and to the Chancellor of the University of Upsala. By both he was treated with respect, and his plans, Pansophic and Didactic, fully discussed. Of his interviews Comenius himself gives an account in the Preface to the second volume of his works. "For four days," he says, "these two men held me in debate, but chiefly Oxenstiern, that eagle of the North (Aquilonaris Aquila), who questioned me as to my principles, both Pansophic and Didactic, with a greater penetration and closeness than had been exhibited by any of the learned with whom I had come in contact. For the first three days Didactic was the subject of his examination, and he brought the interviews to an end with the following remarks: 'From youth up I have perceived a certain violence in the customary method of school studies, but I could never put my finger on the place where the shoe pinched. When sent by my King of glorious memory [Gustavus Adolfus] as an ambassador to Germany, I conferred with many learned men on the subject; and when I was informed that Wolfgang Ratich had attempted a reform of Method, I had no peace in my mind till I had the man before me; but he, instead of a conversation, presented me with a huge book in quarto. I swallowed that annoyance, and having run thru the whole volume, I saw that he had exposed the diseases of schools not badly, but as for the remedies, they did not seem to me to be adequate. Your remedies rest on firmer foundations; go on with your work.' He spoke, however, against the hopes I had conceived of a better state of things as likely to arise from a rightly instituted Pansophic study. 'My advice is,' he said, 'that you devote yourself first to benefit schools and to make the study of Latin easier, and by that means to prepare a smoother way for the greater things.'"

The chancellor of the University added the weight of his advice to the same effect, suggesting that Comenius should move to a locality near Sweden, such as Elbing, on the Baltic coast of Prussia. Finding that his friend De Geer was of the same mind, he yielded, in the hope of bringing these troublesome and vexatious toils to a close in a year or two. Accordingly he devoted himself to his Didactic labors, after first putting to press, in 1643, at Danzig, a treatise on Pansophia, entitled *Pansophiae Diatyposis, Ichnographica et Orthographica.*

When in his retirement at Elbing, where he was supported by De Geer, he had labored at his Didactic treatises for nearly four years—"rolling his Sisyphæan stone," as he calls it—he again visited Sweden (1646) with his manuscripts, and having submitted them to a commission of three judges, was directed to publish them as soon as he had given them his last touches. Two years, however, of hard labor on the Lexicons and Grammars which were to accompany his books still awaited him, and it was only in 1648 that he was in a position to publish. At this time he returned to his Polish home at Lesna, the proper center of his episcopal work, and at the Lesna press the fruits of his labors were printed.

The works included *The Newest Method of Languages solidly based on Didactic Foundations*, and a specimen of a *Vestibulum* afterwards revised at Patak in Hungary: also a new edition of the *Janua*, a Latin-vernacular grammar for the *Janua*, with appended annotations for the use of teachers—a very clear, complete and yet brief work compared with the grammars of the time; and a Latin-German Lexicon, published later, in 1656, at Frankfort, and not included in the collected works, as being too cumbrous. A more advanced school-book, entitled *Atrium Linguae Latinae*, he had just begun when he was called into Hungary, where it was completed. The imperfections of these books, as indeed of all his writings, he is always ready to admit, pleading that no one man could all at once correct the mistakes of the past, place education on a right basis, and furnish the school with proper instruments of teaching.

The products of the six years of Elbing industry he dedicated to De Geer.

Having discharged his obligations to his Swedish friends in the department of Didactics, he was about now, at last, to apply himself exclusively to the greater Pansophic schemes, and was contemplating future labors in this direction with much complacency, when he received a letter from the Prince Sigismund Racotzki and his widowed mother, the Princess of Transylvania, urging him to advise in the reformation of the schools in their country. The requests of mother and son were enforced by communications from theologians, and were favorably entertained by him because of the kindness shown in Transylvania to exiled Moravians. Accordingly, in May 1650, he betook himself to Saros-Patak, a market-town of Hungary, on the Bodrogh, and thence, along with their Highnesses, to Tokay, twenty miles to the northeast. It was in this year that he published his *Lux in Tenebris*, a book on the fulfillment of modern prophecy, which shows that he had strong mystical leanings.

The form which his scholastic labors now took combined the Didactic with the Pansophic more fully than hitherto. Being asked to put his idea of a Pansophic school in writing, he printed his *Illustris Scholae Patakinae Idea*, and thereafter in full detail his *Scholae Pansophicae classibus septem adornandae Delineatio*. During his residence at Patak, which lasted till 1654, he produced fifteen works, among which were the new editions of the *Vestibulum* and *Janua*, the first edition of the *Atrium*, the famous *Orbis Pictus* (World Illustrated), and the *Schola Ludus*.

The most characteristic and important of the works of this period was the *Schola Pansophica*, or *Universalis Sapientiae Officina*. He desired to make the new Patak seminary not merely a Pansophic school, but also to give it the character of a Latin state, nay, even of Latium itself. Nothing but Latin was to be spoken. This was practicable, because he contemplated a college in which all the pupils should dwell together.

His patrons did all they could to fulfill their promises of support. They gave him a collegiate building, and, in addition to this, they purchased the fourth house from the college for the school. Comenius's plan was to buy up the intervening houses, with their gardens, and as many on the other side, so as to provide residences for seven masters, and also seven class-rooms. The whole was to be surrounded by a continuous wall, so that a little Latin state (*Latina civitatula*) might be planted, with its own open areas and gardens—all enclosed from the outer world. This was to be a little republic, having its own customs, laws, judges, and senate, and its own chapel and services. The masters were to preside over a large family like fathers, and there in the course of seven years, beginning at the age of twelve, boys were to be instructed in "all things that perfect human nature," and trained to be pious Christians, and wise and cultivated men.

The three-class school which formed the lower division of this Pansophic seminary was organized with a view to instruction in Latin along with Real things. The higher classes, up to the seventh, are described elsewhere. They do not seem ever to have been organized.

The *Precepts of Manners*, collected for the use of youth in 1653, are amusing, and at the same time afford evidence of the exaggerated conceptions which Comenius entertained of the possibilities of education. He believed, in truth, that he could manufacture a man. These also were written for the Patak school.

The *Schola Ludus*, which is a kind of dramatic *Janua Linguarum et Rerum*, was likewise written and printed for the Patak school. An elaborate Latino-Latin Lexicon was also composed during the four years' residence at Patak. Comenius left it behind him in MSS., and it was afterwards printed at Amsterdam in 1657.

The Prince Sigismund, unfortunately, died prematurely, and those in authority after his death resolved to limit the new institution to the three-class Latin, or philological school, and for the use of this school the *Vestibulum*, *Janua* and *Atrium* were printed in Latin-Hungarian. The Patak school was auspiciously opened under three carefully selected masters, and Comenius believed it to be flourishing in 1657, when, at Amsterdam, he was writing his dedicatory epistle prefixed to the *Schola Ludus*. It had, however, suffered from the plague of 1655, which temporarily broke it up. Having accomplished his work of organization and book-writing, Comenius left Hungary in 1654, pronouncing his valedictory address on June 2d of that year, in presence of a distinguished assembly.

In that address he thanks all for their co-operation, and impresses on them, in eloquent language, the duty of maintaining the school, and prosecuting the methods which he had taught them, which he elsewhere sums up in the words, *Noscenda noscendo, facienda faciendo*, or *Autopsy*, looking at things for oneself, and *Autopraxy*, doing or constant practice.

It must have been about 1652-53, while still in the midst of his Patak labors, that he lost his best friend and patron, Ludovic de Geer. A long letter of condolence addressed to the son, Laurence, then settled at Amsterdam as Swedish ambassador, concludes the third volume of the Works. In this he recalls the virtues and lauds the character of the father, who was, without doubt, a man of high public spirit, and of a generous and liberal nature. For eight years he had supported Comenius and his amanuenses, and was prepared, when the opportunity offered, to contribute largely towards the institution of a Pansophic College.

From Patak Comenius went, in 1654, to his former home at Lesna. The war which almost immediately after broke out (1655) involved the whole of Poland, and caused, among other calamities, the destruction of Lesna (1656). He was thus forced to seek for some safer asylum.

In the overthrow of the town, Comenius lost all his property, including his library and manuscripts, which contained the results of the studies which he had undertaken with a view to the great Pansophic book which was the chief aim of his life. Among the MSS. was one which, he tells us, he considered the most precious of his possessions; it was his *Silva* or 'forest' (to use his own peculiar expression) of Pansophic materials, a treasury of definitions of all things, and of axioms, scientific and philosophic, which he had spent twenty years in gathering together. He had not, even then, been prepared with a complete system, but he had in contemplation, and nearly ready, a much more complete treatise than any he had yet issued.

When after the ruin of Lesna, he was invited by Laurence de Geer, the son of his former patron, to join him in Amsterdam, there to take counsel as to his future, he yielded, because, he himself says, "I have all my life long been accustomed to yield to what seemed to be the guidance of Providence." Comenius was now sixty-three years of age.

The publication of his complete didactic works, to which he now addressed himself at the instance of De Geer, and under the patronage of the highest authorities in Amsterdam, led him to take a critical survey of all he had written, that he might confirm, retract, or modify the opinions which he had from time to time given forth. This treatise of retrospect and revision he entitled *Ventilabrum Sapientiae sive sapienter sua retractandi Ars*—"The Banner of Wisdom, or the Art of retracting one's own opinions." He quotes Aristotle as saying: "It behooves a philosopher to forswear even his own dogmas," and a Roman Pontiff as remarking, "Wretched is that man who is the slave of his own dogmas."

In the *Didactica Magna*, which contains the systematic development of his principles and methods, he finds that he has nothing to retract, but confines himself to a defence of the Syncretic Method, which is there followed. Comenius recognizes three methods of ascertaining and expounding truth—the Analytic and the Synthetic (which words he uses in our modern acceptation), and the Syncretic. By this last he means arguing by a method of parallels in nature,—the method of Analogy. He holds that the true character and process of anything in the created world furnishes a line of explanation for other things, which is of the most convincing kind.

When in the course of his retrospect, he re-peruses his *Praeludium Pansophicum*, a sense of wasted years oppresses him, and he is again afflicted with grief, because he had, at the urgent entreaty of friends, too readily deserted this the main line of his studies, sacrificing the great ambition of his life to occupy himself exclusively with matters didactic. "How badly have I imitated," he exclaims, "that merchant seeking for good pearls, who, when he had found a pearl of great price, went away and sold all he had, and bought it! O wretched sons of light, who know not to imitate the wisdom of the children of the world! Would that I, having once struck the Pansophic vein, had followed it up, neglecting all else! But so it happens when we lend an ear to the solicitations clamoring outside us rather than to the light shining within us."

The corrections he has to make in his various didactic writings are certainly very unimportant. They all point in the direction of greater simplification, and for this he looks to the labors of his successors rather than to any revision of his own.

About the year 1657 Comenius wrote and published (in the fourth volume of his Works) four treatises, which however constitute one. He desired to present his principles in a brief and condensed, yet systematic way, so that they might be accessible to men occupied with public affairs. The first of these treatises is entitled *E Scholasticis Labyrinthis Exitus in Planum, sive Machina Didactica mechanice constructa; ad non haerendun amplius (in Docendi et discendi muniis) sed progrediendum,* "An issue out of School-labyrinths into the Open, or a Didactic Machine mechanically constructed with a view to no longer sticking fast in the work of Teaching and Learning, but of advancing in them." Schools, he tells us, are to be compared to labyrinths, infinitely distracting the minds of youth; the thread which is to guide us thru the labyrinths is a true and simple method. The sciences and arts and tongues are to be taught, but the precise quantity and goal of teaching are not accurately laid down. The thread of Ariadne—Method, is all important, because it leads to distinct issues by a proper way. "Our method," says Comenius, "offers few things, but these necessary to life here and hereafter; few things, but these well consolidated by continued exercises; few things, but these having a direct utility."

He was now sixty-five years of age. His views assumed to his mind a definite and clear shape, and became almost axiomatic. He admits certain errors in details; for example, that his text-books are too condensed, and attempt too much, and that it would be hardly possible to accomplish in three years (the Three-Class philological, or Latin school) all that he once thought might be accomplished within that period; but these faults he considers to be faults of detail, and due to his own culpable neglect of the principles he had himself laid down. Admitting so much, he yet regards his method as so absolute in its character that it may be likened to a machine—a clock, or a ship, or a mill. Set it going, and keep it going, and you will find the result certain. It is really of the nature of a mechanical construction, mechanically constructed. He is never weary of advocating his system. He sums up his principles, and then, with all the ardor of his youth, he afresh proceeds to consider the means by which his great end is to be attained.

The Latin school is to be a college in which nothing but Latin is to be spoken. *Longum et difficile iter per praecepta, usu et consuetudine iter breve et efficax.* He calls the brief treatise in which he advocates the institution of such a college *Latinum Redivivum*, and urges the authorities of Amsterdam to institute one.

With such a college he sees his way so to carry out his methods as to justify him in recurring to one of his old ideas, and comparing his method to a printing-press, which makes the impression of the type on the paper without fail. So will the impression on minds by his method be equally certain. Every capable pupil properly trained, will be a walking library—*obambulans Bibliotheca.*

But the final aim of all this training is moral and religious. Comenius never lost sight of this. As the restoration of man to the Paradise which he forfeited and to the image of God which he lost, is the aim of the Providence of God in Christ, so the aim of the school is a restoration—a bringing of its work and methods into a harmony with moral and religious aims, and subordinating the school to the Church as a spiritual society.

In his *Traditio Lampadis* he solemnly hands over the didactic work of his life to be carried on by others, and commends his labors to God, who had so favored him as to make him the instrument of sowing the seed of a better time for schools, and to whose blessing he looks for a rich harvest in the future.

Comenius was now sixty-six years of age, and had just revised and completed the issue of his collected Didactic works, extending to four folio volumes. He had said his last word. We can well believe the simple-hearted and single-minded old bishop, when he tells us that he had been led by no personal ambition to publish his works, and that he was very far from desiring to derogate from the claims of those writers who preceded him, and to whom he acknowledges his obligations. Nor had his motive been the desire of wealth, for he had sought nothing and gained nothing. He had labored and written, he says, influenced by the love of God, and stimulated by the exhortations of learned men, solely in the hope of improving the education of youth, and preparing a better future for humanity.

We learn from the last Dedicatory Epistle written by Comenius, and addressed to some of the leading men in Amsterdam, that he had not, even in his old age, escaped the general fate of reformers. While his views on Education had been ardently supported by some of the best men in Europe, that obstructive of all education known as the "practical teacher," had been at work. Detraction was busy, and he was accused by the teachers of Amsterdam of "attacking schools." To all this his reply was brief. "I can affirm," he writes, "from the bottom of my heart, that these forty years my aim has been simple and unpretending, indifferent whether I teach or be taught, admonish or be admonished, willing to act the part of a teacher of teachers, if in anything it may be permitted me to do so, and a disciple of disciples where progress may be possible. They say that I write *against* schools: nay, it is *for* schools that I speak and have spoken. I presume our common ends are the same; it is as to methods and ways we differ." Malignity even touched the character and motives of the old bishop. "I have not, by the grace of God," he says, "so spent my life that now in my old age I must avoid the light. As to the allegation that I have preferred private to public schools, this is incorrect; my writings show this. I have desired to give trouble to none, but rather to lessen trouble. Why then should any delight to molest me? Let me live in tranquillity as long as God wills me to be here! With Thomas a Kempis I can from my heart and the bitter lessons of experience say, 'I have tried all things, nor anywhere have I found peace, save in a little corner and a little book' (*angululo et libellullo*)."

Of Comenius's domestic life and history not very much is known. He married, as his second wife, the daughter of Joh. Cyrillus, a priest of the Brotherhood and a Senior, apparently about the year 1629. She died in 1648, or the beginning of 1649, after having borne five children—a son, Daniel by name, and four daughters.

Comenius continued to reside in Amsterdam, after the publication of his collected Didactic works (completed in the end of 1657), maintaining himself and his family by teaching, and partly, it would seem, supported by the private liberality of the admirers of his life and labors—especially the De Geer family, at whose expense his books were printed. He dedicated his works to the city of Amsterdam, in gratitude for the hospitality its people had shown to him. He lived for nearly thirteen years after this, dying on the 15th of November, 1671, in his eightieth year, and was buried in Naarden. During these concluding years he does not seem to have added to his Didactic writings, but he printed several treatises of a religious character intended to further the promotion of the unity of Protestant Christendom, and continued to maintain by correspondence his connection with the Moravian Brethren, and the superintendence of their affairs. His last publication was a confession, entitled *One Thing Needful*, in which the piety of his heart and the simplicity of his faith are alike conspicuous. In this he thanks God that he had been a man of aspirations.

Even in the declining years of his laborious life he never for a moment lost sight of his great Pansophic work, which was to place before the world of science and letters the sum of human knowledge in all departments. He set himself diligently to replace the materials and MSS. which were destroyed at the sacking of Lesna, and left a large number of papers behind him, enjoining his son Daniel and his old friend and fellow-worker Nigrinus to prepare them for publication. The son seems to have troubled himself very little about the matter, but Nigrinus worked for eight or nine years at the revision and preparation of the MSS., being supported during the task by the liberality of Gerard de Geer. But it does not appear that any Panosophic publication ever saw the light.

"Comenius," says Von Raumer truly, "is a grand and venerable figure of sorrow. Wandering, persecuted, and homeless during the terrible and desolating Thirty Years' War, he yet never despaired; but with enduring truth, and strong in faith, he labored unweariedly to prepare youth by a better education for a better future. Suspended from the ministry, as he himself tells us, and an exile, he had become an Apostle *ad gentes minutulas—Christianam juventutem;* and certainly he labored for them with a zeal and love worthy of the chief of the Apostles." S. S. LAURIE.

University of Edinburgh.

QUESTIONS.

1. Describe the three methods which, according to Comenius, are to be used in ascertaining and expounding truth. (Give an example of each.)

2. Why does Comenius place so much value upon what he calls the Syncratic method?

3. What was really the central purpose of all the reformatory efforts of Comenius? (Give full reasons for your answers drawing upon his biography and recorded words. Note especially his retrospect in the *Ventilabrum.*)

4. What should form, according to Comenius, the essential characteristics of the method of school teaching [" thread of Ariadne "]?

5. (a) What does Comenius consider the final aim of all child training?

(b) What is to be the central and supreme school?

SELF-IMPROVEMENT OF TEACHERS.

EDUCATIONAL FOUNDATIONS is admirably adapted for use in teachers' meetings. This has been demonstrated in a number of places where it is regularly used. The editor is desirous of securing outlines of all plans of work now being tried. Thanks are extended to the friends who have already responded. Of the plans received during the last month the one now followed by the teachers of Asheville, N. C., under the leadership of Supt. R. J. Tighe, is here reprinted as it is particularly full of good suggestions as to how to render teachers' meetings solidly helpful.

Methodology.

I. WHAT IS TEACHING?

1. "To cause to learn."
2. "To secure the desired relation between the mind and some *appropriate* education—material."—Hinsdale.

II. WHAT IS METHOD?

1. "Method is procedure according to principles."—Kant.
2. "Method is that body of principles drawn chiefly from sound psychology which are applicable to all teaching."—Clark.
3. "The functions of the mind in relation to truths as yet unknown, and which it seeks to know, may be reduced to three: (1) To find the demonstration of truths known; (2) To find the consequences to be derived from them thru their development and application; (3) To attain thru the senses, by observation and experience, new data on which to base entirely new arguments."—Rosmini.

III. IS THERE A GENERAL METHOD WHICH EVERY SUCCESSFUL TEACHER MUST FOLLOW?

1. "There are certain principles involved that every teacher should be able to apply."
2. "Method is dependent upon method fundamentals" (sound psychology):
   - a. Child activity. Normally enjoyable.
   - b. Sensory perception. Mind reached thru senses.
   - c. Formation of *reality images* (clear). Mind grows and reasons thru images.
   - d. Following normal order of learning.
     - (a) Acquisition—not synonymous with memorization.
     - (b) Assimilation.
     - (c) Expression—physical activities, language and arts, character.
   - e. Learning is therefore analytic—synthetic. Why?

Concrete illustrations.

   - f. Activity is proportionate to interest.
   - g. Childhood is imitative, "The entire accumulated wealth of mankind—language, arts, institutions, and sciences—is passed on from one generation to another, by each generation simply imitating the last."—James.
   - h. Habit is formed by repetition.
3. The Herbartian System (Ratich).
   - a. The first stage in method is *the preparation of the mind to receive.*
   - b. The second stage is *the presenting of the matter on which the mind is to act.*
   - c. The third stage is *the comparison of the new ideas with the old.*
   - d. The fourth stage is *expression in fact, definition,* or *principle of the newly acquired knowledge.*
   - e. The fifth stage is *the application of the newly acquired knowledge to practical use.*

IV. THE ART OF QUESTIONING.

1. Simplicity and clearness.
2. Logical in order. Illustrate.
3. Spontaneity. Text-book questions.
4. Should stimulate thought.
5. Should have a purpose. Importance of aim. See McMurry's Method of Recitation.

V. DIFFERENT METHODS.

"Knowledge can be taught only by occasioning the proper activities of the learner's mind."—White's Art of Teaching.

"Hence there can be no universal or even general method of teaching. There must be as many different methods as there are different kinds of knowledge to be taught." White. Discuss this.

Discuss Smith's four methods with their applications.

VI. TESTS OF A GOOD METHOD.

Child Study.

Read and study "How Children are Made to Suffer by the Mistakes of Educators," and "Cautions for Child Students."

I. IMPORTANCE OF STUDY OF CHILD NATURE.

"All true educational ideals must be based upon absolute knowledge of the developing child mind.

II. METHODS OF STUDY.

1. By observation of children's actions, etc.

2. Introspection.
    a. Difficulties to be met by adults in this.
    b. Making records of past experience.
    c. Acquire the child's point of view. "Put yourself in his place." Every great teacher has been able to do this.

III. ANABOLISM AND CATABOLISM IN EDUCATION.
    Importance of the teacher's knowing of this.

V. SOME CHARACTERISTICS OF CHILDHOOD.
    a. *Restlessness*, nature's provision against a one-sided development. Length of recitation.
    b. *Curiosity*, the motive power of mental life. How shall the teacher take advantage of this?
    c. *Credulity* and *criticism*. Advantages and disadvantages of each to child.
    d. *Vivid Imagination*, its relations to child's conception of truth, and to the teacher's ends.
    e. *Sense of humor*—causes.
    f. *The dramatic Instinct*—relation to imagination. Imitation. Educational value.

V. THE CHILD MIND AND THE ADULT MIND.
    1. The child mind deals more with the concrete—lacks the experience sufficient for generalization.
    2. The adult mind deals more with the abstract.
    3. Importance of numerous concrete illustrations in teaching.
    4. Danger of carrying "object teaching" too far when teaching of principles is the object: e. g. arithmetic.

VI. A TWO-FOLD CLASSIFICATION.
    1. Motor children—characteristics.
    2. Sensory children—characteristics.
    3. Difficulties in classifying children under these heads.
    4. Reaction differences—relations to other individuals and to teacher.

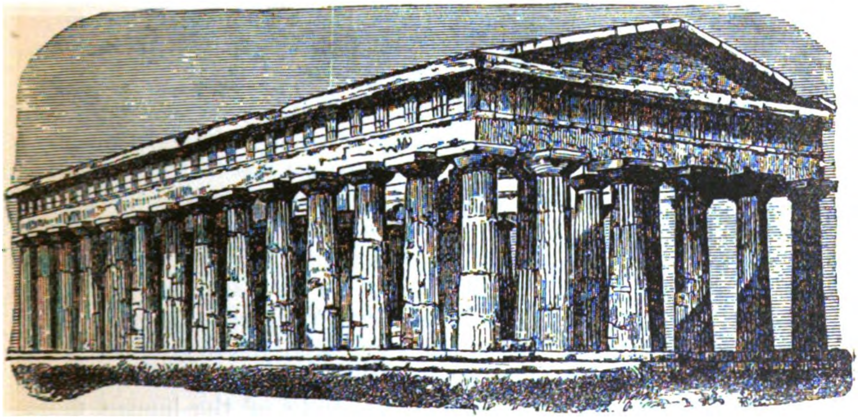
VII. A. TWO ORDERS.
        1. The genus child. General method.
        2. The individual child. Special method.
    B. Method and methods must recognize that ***every condition has its cause.***
        1. Why is the child inattentive?
        2. Why is he disorderly?
        3. Why is he studious?
        4. Why is he strong in one subject but weak in another?
    C. The true teacher must cultivate the psychological spirit.

HISTORY OF GREEK ART.

Greek Art—First Period. II.

Adapted by Francis C. Turner from Goepel's History of Art.

ONE of the best preserved and most beautiful examples of an early Doric temple is that of Poseidon at Pæstum. It is of marble and of colossal size, 88 feet wide and 210 feet long. It stands, as do most Doric temples, on a massive marble platform of three steps; the upper, on which walls and pillars rest immediately, is called the stylobate. These steps are not intended to afford a continuous approach all round the temple; they are far too high for that. The temple need only be approached from one side, and on that side a suitable flight of steps is cut.



Temple of Poseidon, at Pæstum.
(The interior was shown on page 60, last month.)

The pediment of the temple contained, no doubt, the representation of some achievement of the gods; the metopes were without sculpture. It is difficult for us to realize the appearance of the temple when its colored decoration was unfaded. The lower parts were in light tints, probably a golden brown color; the triglyphs and mutules blue, the metopes dark red, to suggest dark open spaces; the cornice of bright and varied colors. The rich coloring of the upper part of the entablature is probably another relic of the time when these parts were of wood and required painting to preserve them from decay.

Other temples of a still earlier age are to be found at Selinus, a city in the extreme west of Sicily, founded in 628 B. C. Of the three temples on the Acropolis, the northern must have been built in quite the early days of the colony, and is remarkable for the width of its intercolumniations, which are two and two-third times the basal diameter, and for the breadth of the pteroma. The middle temple is probably half a century later in date, and in its metopes on the front affords us remarkable examples of primitive sculpture.

Of the ten sculptured metopes two remain in almost perfect preservation, the one representing Perseus slaying the Gorgon,*the other Hercules carrying off the two Kerkopes by the heels. When discovered they still retained sufficient traces of the ancient coloring to show how they had been decorated; the background was red, the draperies bore traces of green, blue, and yellow, while the features were colored with a brownish black.

The figures themselves show an extraordinary degree of archaic naïveté; the details are executed with a seriousness, accuracy of observation, and elaborate care, that give some promise of future greatness. The figures are stumpy and thick, the feet all turn to the right, while the faces and bodies look to the front; the upper part of the left leg of Medusa is reduced to half its proper size by the limitation of the size of the panel; the feet of Perseus and of Hercules rest flat on the ground, altho both are in a walking position. The head of Medusa is grotesque, but its grossness is subdued by a considerable gracefulness in the separate lines.

The Hercules panel is the work of an abler sculptor, but shows the same love of deeds of violence, and the same tendency to the ludicrous. The bones of the knees and ankles, and the muscles of legs and arms indicate a degree of knowledge which can only have been arrived at by the careful study of the human figure in action. The drapery is arranged in light and graceful, but formal folds.

EARLY SCULPTURE.

The Harpy Monument, which stood on the Acropolis of Xanthus, in Lycia, is an interesting example of a purely wooden form of construction reproduced in stone; the projecting beams and curved ribs of the roof, in size and shape represent the original timbers. On one side of the relief a warrior hands his helmet to the seated judge of the dead, beneath whose throne lurks a bear; on another a suppliant is offering a cock to the judge of the lower

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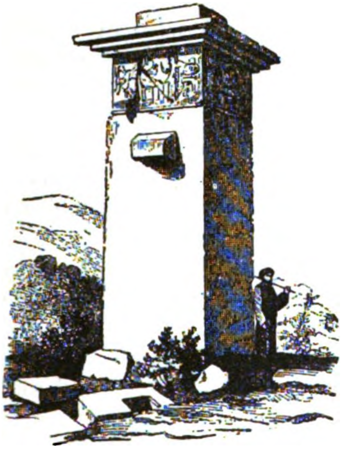
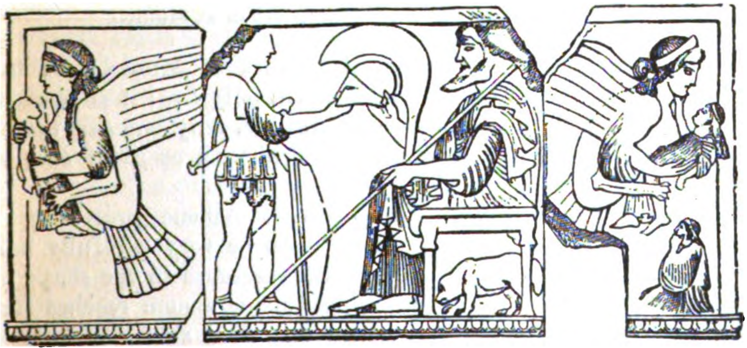
*An illustration showing the metope with Perseus slaying the Gorgon will be found on page 67 of the September number.

world; while on various parts harpies with oval bodies, and full, sensuous facial expression, are carrying off the souls of the departed. The figures have the same heaviness that we observed in the Selinus metopes; the drapery falls in delicate folds, which are, however, formally arranged with great precision and symmetry; the eyes of all the figures are sloping and are set to the side, not in profile. A marble frieze, also from Xanthus, shows us human figures of a similar type with those of the Harpy Tomb, together with horses of extraordinary grace and accuracy.

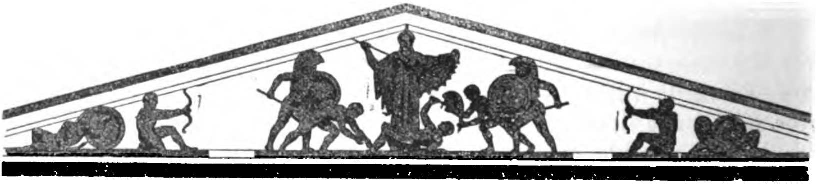

The Harpy Tomb at Lycia.


Relief on Harpy Tomb.

The remarkable likeness between these and some fragments of horses found at Persepolis leads us to infer that Persian influence was very effective in Lycia; but the beauty of the figures is thoroly Greek. The harpies and sphinxes which characterize this early work at Xanthus were probably introduced into Hellas from Egypt, as symbolic representations of death.

Remaining still in Asia we find a frieze at Issus in the Troad (now in the Louvre), in which the artist's humor has been allowed free play: one slab represents two lions, one attacking and devouring a goat, while the other sits by with an air of proud satisfaction; on another slab are a pair of bulls butting at one another; while a third represents Hercules seizing Nereus. An ingenious device gives the effect of colossal size to the hero and the monster, for the figures of six nymphs, who are regarding the combat with expressions of horror, fill the whole height of the frieze, while Hercules is placed in a sloping position, which enables him to have three times their stature.

After seeing these fragments of early sculpture we can now return to Athens, visiting on the way the Temple of Athene on the island of Ægina in the Saronic Gulf. Here for the first time we meet with important examples of detached sculpture; the figures which filled the pediments of the eastern and western fronts of the temple are now preserved in the Glyptothek at Munich. Of the western, ten figures remain; of the eastern, only five: it is remarkable that, tho, when in position on the temple, only one side of the figures could be seen, the backs are finished with as great care as the visible parts.



Pediment of the eastern front of the Temple of Athene on the Island of Ægina. [Restored—omitting the two kneeling spearmen.] Originals are preserved in the Glyptothek at Munich.

In the center of each group stands Athene protecting a wounded warrior; the other figures seem to be very carefully balanced, and to be grouped primarily with reference to the shape of the space to be filled. From the opposite side a man reaches forward to seize the wounded hero; next on either side is a warrior standing erect brandishing a spear; behind these archers are drawing the bow; then a spearman who, rushing impetuously onward and thrusting forward with his spear, has fallen on one knee: at either extremity lies a wounded man. The balance of the composition is to a great extent destroyed by the shields; on the one side the shield is behind the figure, on the other two figures are almost wholly concealed by their shields. This defect was no doubt greatly reduced by the coloring, tho no amount of coloring can make the stone shield show the figure behind it.

The scene probably represents the death of Patroclus, and the archer with the Phrygian cap is doubtless Paris.

We observed at Selinus that the early Greek sculpture dealt mainly with the legendary exploits of heroes, and shrank from attempting to represent the gods; these legends it treated with the coarse realism that was likely to attract the attention of the vulgar. From the heroes the sculptors turned to the athletes, and while they lost the opportunity of realism of action, they advanced still further towards realism of form.

The sculptor of the pediment had clearly athletes for his models, but he has idealized his athlete so that the stomach sinks in sharply below the ribs, and the bones of the legs as well as the ribs are made remarkably visible, and the muscles are most carefully given. The legs are proportionately too long, the arms too short, and the width across the hips too small. The outer corners of the eyes turn downward, while the corners of the mouth curve upward to meet them, and give that strange smile which is so characteristic of archaic sculpture; the chins are pointed and the beards, where there are any, project.

The figure of Athene is far inferior in conception and execution to the rest of the work, whether because the sculptor was unused to the representation of the gods, or because he felt that there was no need of action in the case of the goddess, who could without a movement envelop the fallen warrior in a mist, and conceal him from his enemies. The arrangement of her drapery is stiff and artificial but her head and hair show more vigor and independence than those of the other figures.

The eastern pediment represented a similar scene, and the figures were probably grouped in much the same way as those we have been looking at. In execution they are, however, far superior. The subject is supposed to be the war of Heracles and Telamon, the father of Ajax, against Laomedon, king of Troy. The kneeling figure of the archer, which the lion's skin on the head is supposed to identify as Heracles, is finer in form and attitude than the corresponding figure of Teucer on the western pediment. It shows, too, a greater freedom in the treatment of drapery.

The faces of the eastern pediment wear the same unmeaning smile as those on the western, but the attitude of the wounded warrior on the eastern is that of a man suffering from a mortal wound, while the figures on the western seem rather to be men reclining at their ease. In all the figures the firm line separating the ribs from the stomach is less marked. These differences between the two pediments are rather to be attributed to the difference of skill in the two sculptors than to the one being prior to the other. In the Ægina temple we notice a further departure from the tradition of the original wooden construction, in the substitution of a continuous sculptured frieze (zoophorus) around the cella for the frieze of metope and triglyphs. This feature is found in all the Attic Doric temples.

From Ægina we cross to the Peiræus, and proceed between the Long Walls to Athens, whose rapid development soon eclipsed the glories of Ægina. The city is three miles from the sea, and the road to it lies between the famous walls. The plain of Attica is enclosed by mountains on all sides but the south, where it is open to the sea. Cithæron, Parnes, Pentelicus and Hymettus bound the plain, in the midst of which a group of isolated crags stand out from the level; the largest of these, Lycabettus, is without the city and occupies a position with regard to it similar to that of Arthur's Seat at Edinburgh, "the modern Athens."

Southwest of Lycabettus lies the Acropolis, and the three other hills that lie within the city, Areopagus, Pnyx and the Museum. The Acropolis is a flat-topped hill rising about 150 feet precipitously out of the plain; the Museum is as high or higher, but less steep and imposing. The Agora, or market-place, lay between these hills. Two streams drain and water the plain: Cephisus, which passes the city on the northwest, nearly half a mile without the walls; and Ilissus, which flows within the walls of Themistocles on the south; both bright and sparkling streams, fringed with olive groves and myrtle-trees and mossy banks.

The first impression of the town is not altogether favorable. The houses are low—generally of one story—and built of timber or unburnt brick; they present a hard unbroken wall to the street, and are in striking contrast with the majestic public buildings which are scattered over the city and occupy the Acropolis. After the time of the Persian invasion this had ceased to be used for purposes of residence, and was given up entirely to public use. From its summit the colossal figure of Athene looks over plain and sea far away into the Peloponnesus, and seems to stand as a sentinel to keep watch for the enemies of the land she had snatched from Poseidon. To her left rises her own majestic temple, while beneath her feet lies the beautiful entrance hall, the Propylæa, and the broad marble steps that form the only approach.

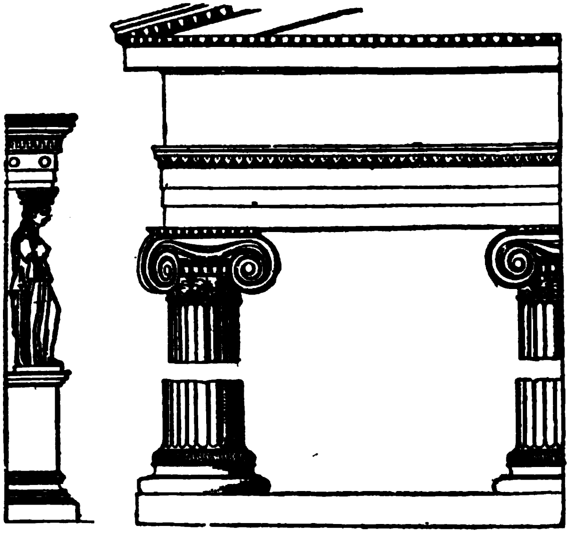
From the Agora we follow a winding path until we find ourselves at the foot of these beautiful steps hewn on the surface of the rock. At the top of the steps are six white marble Doric columns which support a temple-like pediment. The capitals and entablature have a scheme of color similar to that which we saw at Pæstum; but the columns are more slender and more finely molded; the columns of the Propylæa and of the Parthenon are in height more than 5½ times the basal diameter.

The loftier building in the center sinks away on either side into wings, whose fronts are at right angles to the principal façade and stand over the steps; these also have Doric columns supporting pediments. That on the left forms the entrance of a hall known as the Pinacotheca or picture gallery; the other only forms an open gallery, but in front of it to the west stands the famous little temple of Wingless Victory.

Passing now under the central pediment we enter the hall of the Propylæa, and from this another hexastyle portico leads us on to the platform of the Acropolis. The coffered ceiling of the hall of the Propylæa is supported by six columns of a form which differs greatly from that Doric type with which we are acquainted. The characteristics of the columns are a molded base with convex and concave moldings, a more slender shaft, a capital in which the echinus is surmounted by a double roll or volute. It is the latter feature that is the most striking characteristic of the Ionic style, and many have been the efforts to account for it. According to one, it was suggested by the curling down of the bark of a wooden column; another supposes that it represents the ram's horns or spiral shells with which the primitive wooden capital may have been adorned; while Vitruvius suggests that it represents the female, as the Doric represents the male sex; the spiral being then symbolic of the locks of hair, while the flutes and fillets of the shaft stood for the drapery and the base for the sandals.

All are agreed that the Ionic style is characterized by a softness and refinement which borders on effeminacy; but such fantastic explanations as that just given fall to the ground when we recall the fact than in Assyria and Persia we met with the volute and with columns resembling these both in base and capital. The Ionian inhabitants of Asia, among whom this style originated, had with their wealth and luxury acquired a soft and effeminate character which at once distinguishes them from the inhabitants of European Greece, whether Dorians or their Ionic kinsmen in Attica. The vigor, sublimity, and simplicity of the Doric is gone, and its place has been supplied by mere delicacy and refinement.

While the ratio of height to base is considerably greater in the Ionic shaft, amounting to from eight to ten diameters, it has diminution and entasis like the Doric. Its flutings are markedly different; they are increased to twenty-four in number; instead of being shallow like the Doric they have a semicircular section; but as they could not have a semicircular section if they intersected, they are separated by broad fillets. This column then does not appear to be developed from a polygonal form, but to be a circular shaft ornamented with channels. The flutings terminate at top and bottom in a semicircle. The base has a series of horizontal channelings convex and concave, variously arranged to form a graceful transition from the floor to the column.



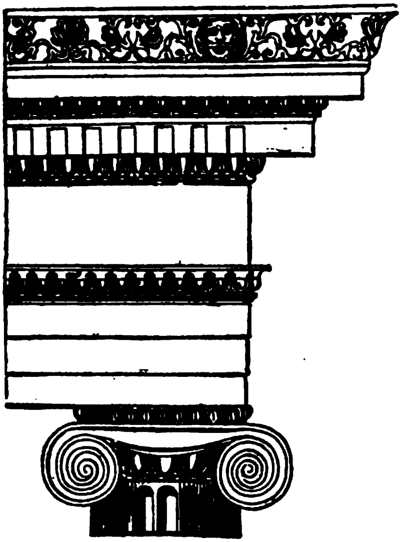
Ionic Style.

The typical capital consists of an echinus with sculptured leaf ornament or egg and dart molding surmounting a narrow astragal molding; this echinus is almost entirely concealed by the spiral roll, which projects on the two sides in the line of the architrave and forms a transition from the circular column to the horizontal beam; a thin molded abacus surmounts the capital.

The entablature is in character with the column of a lighter description than the Doric; it consists of three members, architrave, frieze, and cornice. In some degree the frank display of the details of the original timber construction is wanting here in comparison with the Doric; but it shows its own evidences of the exigencies of material.

The architrave is not single but in three steps, one projecting over the other, a relic of an arrangement of beams necessitated by the slender character of oriental timber. Along the top edge of the architrave ran astragal and cyma moldings.

The frieze retains no sign of a constructive origin, it is a continuous sculptured band: the dentils, which are the constructive indication of the ceiling, are thrust upwards and become the lower member of the cornice. The latter, which is highly ornamented, includes a curved gutter with lions' heads or anthemions, or both.



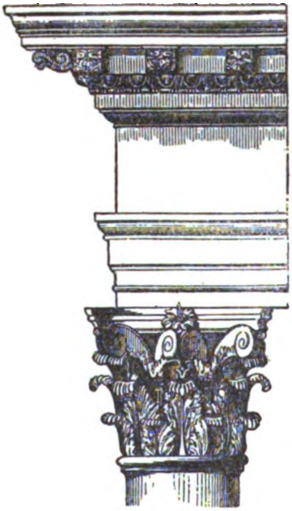
Entablature of Temple of Athene at Priene.

The Ionic column must certainly have originated in temples *in antis*, and a great difficulty presented itself when it was necessary to use it as a corner column; it then became necessary to have the spirals on two consecutive sides of the capital, and as in that case they would intersect, the two were bent out in the direction of the diagonal in such a way that the projection from either of these sides should give the appearance of a normal column. This artifice cannot be executed in a natural manner, and the result is that the corner Doric capital is entirely without constructive significance as well as individual beauty.

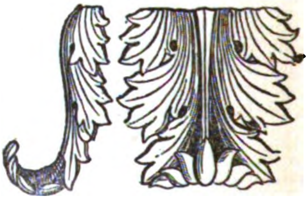
The Ionic style, with a variation of capital, partly suggested by this corner contrivance, has been raised into a separate order by the Roman architects under the name of the Corinthian order. This beautiful capital,

> "With many a woven acanthus leaf divine,"

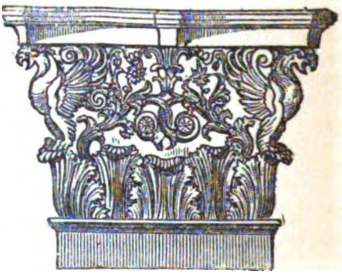
was no doubt suggested by the calyx capital decorated with lotus and papyrus that we have seen so often in Egypt. In adapting the suggestion, native plants were substituted and conventionalized. The acanthus or Greek thistle is beautifully suited for conventional treatment. The Corinthian capital in its origin was merely a concave calyx, with varied foliage decoration; it was not raised into an order with a rigid canon until Roman times; in its ultimate form the calyx was surrounded with a treble wreath of acanthus leaves, the corner leaves being sufficiently high to support the spirals which projected at the corners and connected the capital with the square abacus; between the spirals the surface of the calyx was adorned with anthemions. With the Corinthian capital the shaft tended to become still more slender. The floral decoration was in time extended to the entablature, and ultimately took the place of the figured frieze. The Corinthian capital had the advantage over the Ionic that it removed the corner difficulty.



Corinthian Order.



Acanthus Leaf.



Corinthian Capital.

(*To be continued.*)

TEACHERS' EXAMINATIONS.

The questions given in this department have been selected from papers used at recent teachers' examinations in several states. The answers are necessarily suggestive rather than final, tho their accuracy can be depended upon as far as they go.

Teachers' Examinations at Kansas City.

(Questions given by Supt. J. M. Greenwood, in examination for teachers, June, 1902, with answers.)

ARITHMETIC.

1. How many times may the difference between 462 and 826 be taken from 8 times the sum of 248 and 752 and leave remaining 2,540?

2. A number was multiplied by 2½, the decimal point then removed one space leftward, and 2½ added; the result was then 14; what was the original number?

3. Saturday, May 10, 1902, under heading of Local Securities, the following quotation is found:

First National Bank, annual dividend 15 per cent.; last dividend Jan. 1902, Bid 475, asked 525. What per cent. would this stock pay if bought at asking price?

4. A merchant marked his goods to sell at a profit of 10 per cent at wholesale; if his retail price is 20 per cent. above his wholesale price, find his gain at retail.

5. The sum of A's and B's ages is 76 years, and $^2/_3$ of A's age equals $^3/_5$ of B's, how old is each?

6. I owe a debt of $246.50; for what sum must I give a 60 day note to a bank to obtain that amount, rate of discount being 8 per cent.?

7. If the earth be a perfect sphere 7,920 miles in diameter, what would be the edge of a cubic containing the same volume?

8. A circular lot contains an acre, what is its diameter in feet?

9. The piece of ground enclosed by Main, 8th, Delaware, and 9th is a trapezoid bounded as follows: Main, 300 ft.; 8th, 90 ft. and 9th, 30 ft. If Main is perpendicular to 8th and 9th, what is the area in square feet?

10. I travel from Kansas City until my watch is 1 hour, 20 minutes slow. If longitude of Kansas City is 95 degrees W., what is longitude of place reached?

ANSWERS.

1. 15.	6. $249.79.
2. 46.	7. 6399 + miles.
3. 2.85 + %.	8. 235 + feet.
4. 22%.	9. 18,000 square feet.
5. A is 36 and B 40.	10. 75 degrees west.

HISTORY.

1. What special act of discovery or conquest was achieved by each of the following: Pizarro, Menendez, Cortez, Balboa?

2. How was the provision made before the settlement, for the government of the colony at (a) Jamestown, (b) Plymouth?

3. (a) How many years elapsed after the Declaration of Independence before the United States had a president? (b) Mention some civil power, which, during that time, exercised any of the duties now devolving on the President of the United States.

4. (a) Concerning what questions of treaty was John Jay sent to England in Washington's administration? (b) How was Jay's treaty received by the people of this country?

5. State how each of the following events tended to either allay or incite

the agitation of the slavery question: (a) the Missouri Compromise, (b) John Brown's Raid?

6. (a) What was the Wilmot Proviso? (b) Locate the Gadsden Purchase.

7. Name a prominent statesman, other than president, in public life, at the time of (a) the war of 1812, (b) the Mexican War, (c) the Civil War.

8. Locate either by administration or by decade (1800-1810-1820, etc.) the following events: (a) the laying of the first successful Atlantic Cable; (b) the resumption of *specie* payments; (c) the purchase of Alaska.

9. Name five prominent American inventors, and one invention for which each is noted.

10. It was proposed to annex by treaty the Hawaiian Islands; (a) What instance has there been of the acquisition of a state in a similar way? (b) Name a state formed from territory bought by this nation, and tell from what country that territory was purchased.

ANSWERS.

1. (a) Pizarro explored the Amazon. (b) Menendez explored Florida. (c) Cortez conquered Mexico. (d) Balboa discovered the Pacific ocean.

2. (a) For a royal governor, by virtue of a charter. (b) By a compact drawn up by the Pilgrims.

(a) Thirteen. (b) Continental Congress.

4. (a) To settle northern frontier posts, for the regulation of trade, and extradition of criminals. (b) With great displeasure.

5. Personal answer required.

6. (a) It declared that slavery could not exist in territory acquired from Mexico. (b) The line follows the Rio Grande river from its mouth to 31 degrees 20 minutes north latitude, thence to the 111th meridian, thence to a point on Colorado river twenty miles below Gila, thence to California line.

7. (a) James Monroe. (b) Salmon P. Chase. (c) William H. Seward.

8. (a) President Johnson, 1860-1870. (b) President Grant, 1870-1880. (c) President Johnson, 1860-1870.

9. Edison, telephone; Morse, telegraph; Franklin, lightning rod; Fulton, steamboat; Whitney, cotton gin.

10. (a) Texas. (b) Louisiana, from Spain.

ENGLISH GRAMMAR.

1. Write a sentence containing (1)—an adjective clause, (2)—an adverb clause, and (3)—an object complement.

2. Diagram the sentence you have written.

3. Name four ways in which a noun is used in the nominative case. Give an example of each.

4. State three ways in which the plural of nouns is formed. Give an example of each.

5. Write sentences illustrating three uses of that, and three uses of but.

6. What are the two great classes of conjunctions? Define each and give an example of each.

7. Give three cautions on the use of the adjective and three on the use of the adverb.

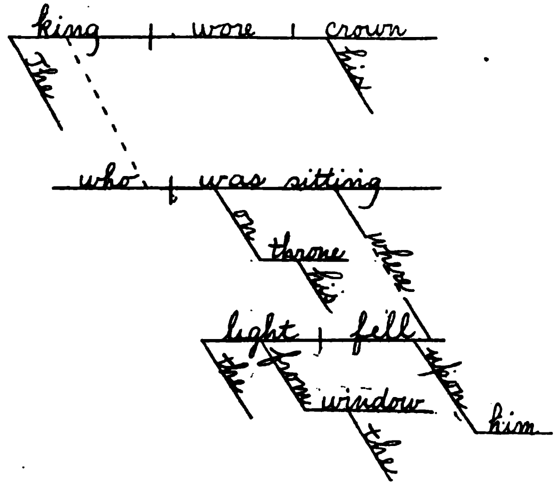
8. Conjugate the verb strike (1)—in the active voice, present tense, singular and plural; (2)—in the passive voice, present tense, singular and plural. Conjugate the same in the future, active and passive, singular and plural.

9. Write short sentences illustrating the infinitive (1)—as subject, (2)—as attribute complement, (3)—as object complement, (4)—as explanatory modifier.

ANSWERS.

1. The king (1) *who was sitting on his throne* (2) *where the light from the window fell upon him,* wore his (3) *crown.*

2.



3. As subject: *Birds* sing. As appositive: We *boys* play. As subjective complement: Your mother is your *friend*. In absolute construction, The *day* being cloudy, we think it will rain.

4. The plural is generally formed by adding *s* to the singular: boy, *boys*. Nouns ending in *y* preceded by a consonant are made plural by changing *y* to *i* and adding *es*: fly, *flies*. Some nouns ending in *f* change *f* to *v* and add *es*: leaf, *leaves*.

5. *That* man is a teacher. He hopes *that* you will go. The word *that* is peculiar. All are here *but* one. I shall go *but* you will stay. He was all *but* dead.

6. Co-ordinate and subordinate. Co-ordinate conjunctions connect elements of equal rank: Frank *and* John came. Subordinate conjunctions connect elements of unequal rank: They sang *until* they were tired.

7. Avoid the use of too many adjectives; Do not confuse *a* and *an*; Adjectives should not be used for adverbs. Be careful where you place adverbs; Be careful in forming endings for the comparative and superlative degrees; Remember that adverbs weaken the sentence instead of strengthening it.

8. (1) I strike	(2) I am struck	I shall strike	I shall be struck
You strike	You are struck	You will strike	You will be struck
He strikes	He is struck	He will strike	He will be struck.
We strike	We are struck	We shall strike.	We shall be struck
You strike	You are struck	You will strike	You will be struck
They strike.	They are struck.	They will strike.	They will be struck.

9. (1) *To walk* well is necessary to health. (2) The bell is *to be rung*. (3) I hope *to go*. (4) I fear it is too late *to go*.

GEOGRAPHY.

1. Compare the basin of the Mississippi river with that of the Amazon river as regards (a) size; (b) rainfall; (c) climate; (d) vegetation.

2. Mention (a) three sections of the United States noted for valuable forests; (b) three states noted for the production of coal; (c) two states that produce large quantities of silver; (d) two states noted for the production of gold.

3. How does Cuba compare in size with the state of Missouri? (b) Name and locate three of its principal seaports; (c) Name three important products exported from Cuba.

4. Locate the following cities and state a fact of importance in relation to each: (a) Constantinople; (b) Lyons; (c) Manila; (d) Melbourne; (e) Valparaiso.

5. Locate the following islands: Trinidad, Elba, Ceylon, St. Martinique, Madagascar.

6. Name the capital of each state that borders on the state of Missouri.

7. What is the cause of deserts? How are portions of some deserts sometimes made productive?

8. What country leads in the production of opium? In its consumption?

9. What is the leading city of the United States in the manufacture of (a) iron and steel; (b) flour; (c) cotton fabrics; (d) knit goods?

10. Account for the presence of icebergs and dense fogs off the coast of Newfoundland.

ANSWERS.

1. (a) Amazon is slightly larger. (b) Amazon basin has greater rainfall. (c) Climate of Mississippi basin is temperate, of the other, tropical. (d) Amazon basin has the rank vegetation of the jungle; the Mississippi vegetation is useful and less dense.

2. (a) Maine, Michigan, Oregon. (b) Pennsylvania, West Virginia, Illinois. (c) Colorado and Nevada. (d) California and Colorado.

3. (a) Missouri is a half larger than Cuba. (b) Havana on north coast, Santiago on southeast coast, and Cienfuegos on south coast. (c) Tobacco, sugar, fruits.

4. (a) On the Bosphorus; capital of Turkey. (b) In southern France, noted for silk manufactures. (c) On island of Luzon, capital of Philippines. (d) In Australia, principal city. (e) On west coast of Chile and the capital.

5. Trinidad, off northeast coast of South America; Elba, between Corsica and Italy; Ceylon, south of India; St. Martinique, in the Lesser Antilles; Madagascar, southeast of Africa.

6. Arkansas, Little Rock; Kansas, Topeka; Nebraska, Lincoln; Iowa, Des Moines; Illinois, Springfield; Kentucky, Frankfort; Tennessee, Nashville.

7. Lack of rain. By irrigation.

8. India. China.

9. (a) Pittsburg; (b) Minneapolis; (c) Fall River; (d) Cohoes.

10. They are caused by the Arctic currents.

New York State Uniform Examination Questions.

Held August 28, 1903.

GENERAL HISTORY.

1. Name two ancient cities *a.* of Egypt; *b.* of Phœnicia; *c.* in the Tigro-Euphrates basin. d. Which two of these cities were great commercial centers?

2. What was the final result of *a.* the Punic wars; *b.* the Peloponnesian war; *c.* the Wars of the Roses; *d.* the Thirty Years war?

3. Mention five events that occurred during the last part of the fifteenth and the first part of the sixteenth century and gave a great impetus to industrial and intellectual activity.

4. *a.* During the rule of what house in English history was the characteristic feature a conflict between the king bent upon absolute power and the parliament contending for the rights of the people? *b.* Name three sovereigns of this house.

5. *a* What effect had the Civil war in the United States on the industrial affairs of England? *b.* What was the sentiment of the government of England towards the Union during this war?

6. Describe the first invasion of Europe by the Saracens as to *a.* territory conquered; *b.* how their career of conquest was checked?

7. *a.* Give the limits of the country ruled over by the Saracens when at the height of their power. *b.* Name two capital cities.

8. Give an account of the conquest of Egypt by the Saracens; stating in whose caliphate it occurred, under what leader, about what time, a noted siege during its progress, and its effect on the later history of Egypt.

9. Compare the civilization of the Saracens with that of Christian Europe during the Middle Ages.

10. When were the Moors driven from Spain? What effect did their expulsion have on the industrial and intellectual life of the country?

ANSWERS.

1. *a.* Memphis, Thebes. *b.* Tyre and Sidon. *c.* Nineveh, Babylon. *d.* Tyre and Sidon.

2. *a.* The destruction of Carthage. *b.* The downfall of Athens. *c.* The downfall of the great English nobles. *d.* Conclusion of religious peace in Germany.

3. Discovery of America, invention of the printing press, discovery of the new route to India, the Fall of Constantinople, the Reformation.

4. *a.* The Stuart Period. *b.* James I., Charles I., Charles II.

5. *a.* It demoralized industry in England. *b.* It was hostile to the Union.

6. *a.* Spain and a small province of Gaul. *b.* By Charles Martel at the battle of Tours in 732.

7. *a.* From Hindustan to the Atlantic. Northern part of Africa, Asia Minor and Spain. *b.* Cordova, Bagdad.

8. Caliph Omar; leader Amrov; date 634-644; Alexandria; henceforth Egypt was Mohammedan.

9. It was superior to that of the Christians in government, law, literature, learning, commerce, and the arts. The Saracen cities were centers of learning when Christian Europe had not escaped from the barbarism resulting from the Teutonic invasions.

10. In 1492. The following period was the most brilliant in Spanish history.

GENERAL LITERATURE.

1. Mention a prominent character in "Ivanhoe" representing *a.* the Jews; *b.* the monastic orders; *c.* the Saxon Thanes; *d.* the military-religious orders; *e.* the Norman nobility; *f.* the Saxon nobility; *g.* the Saxon slaves; *h.* the outlaws; *i.* the jesters; *j.* the kings.

2. Name *a.* the most noted character of "The Last of the Mohicans"; *b.* the three most prominent Indian characters; *c.* the two principal female characters.

3. *a.* Give the approximate time of the occurrences described in "The Last of the Mohicans"; *b.* of what famous massacre is an account given in the book? *c.* What section of country is described?

4. What is Cooper's rank in American literature, as a writer of fiction?

5. What is true of "The Merchant of Venice" as to *a.* its rank among Shakespeare's plays; *b.* its popularity; *c.* its effectiveness on the stage?

ANSWERS.

1. *a.* Isaac of York; *b.* Friar Tuck; *c.* Cedric; *d.* Bois Guilbert; *e.* Maurice de Bercy; *f.* Sir Wilfred; *g.* Gurth; *h.* Robin Hood; *i.* Wamba; *j.* Richard Coeur-de-Lion.

2. *a.* Montcalm. *b.* Magna, Chingachgook, Uncas. *c.* Alice and Cora.

3. *a.* 1757. *b.* Fort Henry. *c.* Northern New York.

4. In the second rank in literature, in the first rank in fiction.

5. *a.* In the second group of his plays. *b.* One of the most popular. *c.* Extremely effective.

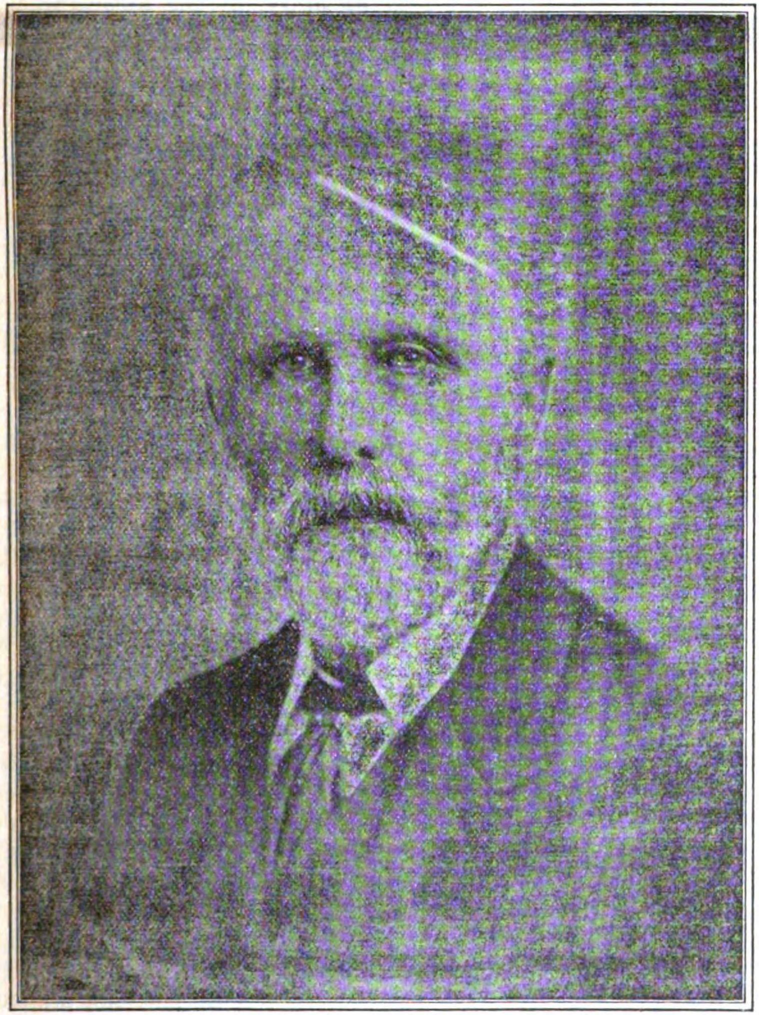
EDITORIAL NOTES.

Examinations in pedagogy are rapidly becoming established as essential tests in the selection of teachers everywhere. General scholarship is no longer considered a sufficient guarantee of fitness for school work. This is as it should be. A knowledge of pedagogy and its related sciences may not be proof absolute of teaching ability, but it does show that the possessor has made earnest efforts to equip himself with the best thought concerning education. Teaching requires first of all seriousness of purpose and a desire to bring to the work the completest preparation possible. It is the practical appreciation of this truth which has shut thousands of school-rooms to candidates for teaching who lack interest in professional study. New York city, which pays the best salaries to teachers, also insists upon the highest standard of pedagogical equipment.

Fitch and Rooper.

The English school world has sustained a severe loss in the deaths of Inspector Thomas Godolphin Rooper and Sir Joshua Fitch. The latter has been for many years recognized as Great Britain's Nestor of education. His "Lectures on Teaching," delivered before the University of Cambridge in 1880, form one of the most valued books in modern pedagogical literature, from which thousands of American teachers have drawn inspiration and practical suggestion. It is essentially a popular treatise, with little, if any, psychological theorization, regarding the problem of teaching from the common sense point of class-room experience. Fitch was unquestionably the most influential expositor of educational questions touching the needs of his native country. The reading public, and even parliament, respected his arguments highly. His extensive study of national educational systems, his breadth of view, coupled with the power of keen, logical presentation, gave unusual weight to his utterances. It is strange that the death of Rooper, whom he regarded as "the coming man in education," should have occurred so close to his own.

Rooper was an educational enthusiast, who by American teachers will be best remembered as the author of "A Pot of Green Feathers," the first plain and sensible exposition of the meaning and educational significance of "apperception;" a term with which the followers of Herbart in Germany drew lightning from the pedagogical sky, and which caused English speaking teachers no end of trouble to interpret. At Bradford and Southampton his loss is felt as that of the humane, helpful, and inspiring school inspector that he was, sympathizing with his whole heart with every conscientious laborer in the educational field, and striving with all his might to make life at school as happy and productive of best results as untiring devotion could possibly make it.



Sir Joshua Fitch.

Frank Alpine Hill.

The death of Mr. Frank A. Hill, on September 14, closed the life of a singularly worthy successor of that immortal educational reformer who served as the first secretary of the Massachusetts board of education. Because of his unusual modesty and dislike for every form of display and pretense he has not received in his time fitting acknowledgment of the great debt the educational world owes him. If teaching could lay claim to a high professional attitude, and truth were valued more than cleverness and the tawdry semblances of pedagogical zeal, Mr. Hill would have been regarded as one of the most influential educators. The peculiar organization of the Massachusetts school system renders reforms of any magnitude a giant task for the secretary of the board. Yet during Mr. Hill's encumbency legislative measures have been inaugurated, so far-reaching in scope and so fundamental in character that it would seem as if nothing short of a revolution could have placed them upon the statute-book. There was hardly a ripple to indicate that anything unusual was under way when expert supervision was extended to every school in the commonwealth; when the requirements for admission to normal schools were raised; when the first steps were taken toward the state certification of teachers; when the maintenance of efficient high schools was recognized as among the essential civic responsibilities. To be sure, the credit for these and many other things will be claimed by and for others. It was Mr. Hill's way to fix his eye steadfastly upon the accomplishment of reforms and to let personal reward go to those who aided him. He brought things to pass. The history of education in Massachusetts in the time of his administration shows this.

Mr. Hill was born in Biddeford, Me., and educated at Bowdoin college. He was principal of the Milford high school to 1870, when he became head master of the English high school at Cambridge.

In Cambridge Mr. Hill was closely connected with the establishment and development of the Cambridge manual training school for boys. In 1894, he was chosen secretary of the Massachusetts state board of education.

Mr. Hill's educational service covers forty-one years. In all this time he has been laboring disinterestedly and continuously to advance the cause of public education to the best of his ability. How much he has done for the introduction and extension of manual training, mortal man will never know. He worked quietly, persistently, and circumspectly for the spread of his convictions, seeking his reward in the attainment of the end in view. His self-effacement was no mean factor in his wonderful success.

Mr. Hill was a scholarly, true, and courteous man. President Eliot's definition of a cultivated man was in him most fully exemplified. He possessed patience and infinite tact. His heart went out to everyone genuinely interested in the improvement of the educational opportunities afforded the young. And he loved children. With these qualities he could not but win victories for education.

Annuities for Teachers.

The justice of providing annuities for teachers who have grown old and feeble in the harness is more generally understood than ever before. The discussion now turns almost wholly about plans and the fixing of responsibility for them. The localities which have solved this matter to their own satisfaction are worthy of all commendation. But the matter ought not to rest here. Pensioning should be made a state concern. Why should a teacher who has spent his best strength in a country school have all his years of labor count for nothing on being promoted to a larger school system? The state as a whole is benefited, and reduction of the anxieties of its teachers is also in its own interest. There ought to be settled a minimum pension to which all teachers in the state shall be entitled on their retirement, and the state itself ought to shoulder the responsibility for its payment. Furthermore, provision should be made for enabling the retired teachers to live according to the station they occupied in the closing years of their career. There need be no danger of making teaching too attractive. If a citizen considers the emoluments held out to teachers too liberal, he merely reveals his need of education regarding the teacher's work and its value to the state. This value may be figured out to him in dollars and cents by the increased earning capacity of the educated men and women of the state, if no other than hard, economic facts will persuade him. The broader-minded, cultured taxpayers will yield to more elevated arguments. It must be a poor stick of a citizen who, because he happens to know only two or three teachers, whose qualifications and devotion to their work are not satisfactory to him, is opposed to having justice extended to any of the workers in the schools of the state.

If the state educational associations should really be representative organizations, thru which the teachers of the state could voice their needs and wishes, there ought to be no difficulty in getting the campaign for state annuities under way. Meanwhile, let the aim be kept in mind, and words be spoken for it whenever an occasion presents itself.

Authors of Some of the Articles in this Number.

"The School Superintendent."—p. 84.

There is probably no man in America better qualified by experience, study, and observation, than Dr. C. B. Gilbert to write authoritatively upon the subject of school administration. His article in the present number is an especially strong one. His views upon the duties and powers of school superintendents deserve careful reading. Teachers' associations and reading circles using EDUCATIONAL FOUNDATIONS may profitably devote a whole meeting to discussion of the various points covered in the article. It will bear forming the central topic of a series of meetings.

"Nervous Disorders in Children."—p. 117.

[Dr. Savage is an eminent English specialist in the treatment of nervous disorders to which children may be subject. The article here printed is an adaptation of a paper read by him before a branch of the parents' National Educational Union of England. The subject here presented is a most important one, concerning teachers quite as much as parents. There are contained in this article many suggestions which teachers might bring up for discussion at parent' meetings.]

"Some Causes and Effects of Fatigue in School."—p. 113.

[Dr. Grossmann's special field of study and research in education is indicated by the school he has founded and to whose development he is devoting his whole strength, the Grossmann School for Atypical Children. Abnormalities met with in children have engaged his interest and study for many years and it has been his constant aim to discover the best ways and means of educating those who may be temporarily or permanently deficient in mental or physical lines. As Superintendent of the Ethical Culture Schools of New York city he made special efforts to assure to every child the education best suited to his needs. In the Grossmann school, with the smaller number of pupils, he is courageously working out important problems in child training which have long been waiting for such special investigation.]

Partial List of Articles to be Published in the November Number.

The Common School Community.

School Administration,

Responsibility in School Supervision.—Francis Wayland Parker.

This article was originally written for *The School Journal*, and there printed several years since. It will form an excellent supplement to the article by Dr. Gilbert in the present number, covering as it does almost the same ground.

Child Study and Child Training,

Mental Activity of the School Child.—John Gill.
Ideas and Their Relations.—John Adams.

Methodology of Education,

On the Study of Literature.—John Morley.
English Composition and Essays.—J. H. Fowler, M. A.

History and Classics of Education,

Froebel's "Education of Humanity."
John Locke—A Biographical Sketch.

History of Art,

First Period of Greek Art Concluded.

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Contents for October, 1903

Ill Use of the Brief Lesson Time. Matthew Arnold - - - - - - - - - 161
Social Problems and the New School Community. II. Ossian H. Lang - 161
The Ultimate and the Proximate Aim of Education. W. N. Hailmann - - - 163

CHILD STUDY AND CHILD TRAINING

Psychic Arrest in Adolescence. G. Stanley Hall - - - - - - - - - - 164
Cultivating Sympathetic Relations. James Currie - - - - - - - - - 164
Mental Activity of the School Child. John Gill - - - - - - - - - 165
Ideas and Their Relations. John Adams - 168

METHODOLOGY OF EDUCATION

On the Study of Literature. John Morley - 175
English Composition and Essays. J. H. Fowler - - - - - - - - - 178

CLASSICS AND HISTORY OF EDUCATION

Childhood and Boyhood - - - - - 182
John Locke. R. H. Quick - - - - - 188

SCHOOL ADMINISTRATION

The School Superintendent. II. C. B. Gilbert - - - - - - - - - - 194
Responsibility in School Supervision. Francis W. Parker - - - - - - - 202

HISTORY OF GREEK ART

Greek Art—First Period - - - - - 213

TEACHERS' EXAMINATIONS

EDITORIAL NOTES

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Educational Foundations

OSSIAN H. LANG, Editor.

Vol. XV., NOVEMBER, 1903. No. 3.

Ill Use of the Brief Lesson Time.

ONCE secure what is excellent to be taught, and you can hardly teach it with too much insistence, punctuality, universality. The more one sees of the young, the more one is struck with two things: how limited is the amount which they can really learn, how worthless is much that goes to make up this amount now. But the heart-breaking thing is, that what they *can* be taught and *do* learn is often so ill-chosen. "An apple has a stalk, peel, pulp, core, pips, and juice; it is odorous and opaque, and is used for making a pleasant drink called cider." There is the pedant's fashion of using the brief lesson-time, the soon-tired attention, of little children. How much, how far too much, of all our course of tuition, early and late, is of like value!

MATTHEW ARNOLD.

Social Problems and the New School Community. II.

To me this whole question is a religious one. I hold the specific purpose of the common school to be the *social regeneration* of the individual in the service of civilization, patriotism in the sense of good citizenship, neighborliness, and righteousness. It seeks to serve this purpose *now* in its limited sphere of child training by endeavoring to make every pupil self-supporting and self-reliant, and by seeking to instill in the young intelligent and unswerving respect for law and order together with rational views of personal liberty. Wherever these objects are consciously, honestly, and wisely cultivated we have a training school for and in social service. There a sound foundation is laid for the religious life, or if another phrase is more acceptable—there the religious development of pupils is being re-inforced as it should be, in every school.

It has already been suggested that the school is capable of becoming a great social regenerating force, including in its scope the adult population as well as the training of the young. The very nature of its origin involves co-operation of parents as a vital element which we, as teachers, ought to promote by every means within our resources. A school district is, or ought to be, an organization of the people of a locality united for the purpose of

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maintaining a common school as the chief common agency for meeting the educational responsibilities placed upon the several families, but whose conscientious fulfilment is of vital interest to society at large, and whose sufficiency and efficiency is of fundamental importance to the whole state. Now this co-operative social group, bound together for the maintenance of a common school, I have for some years designated as "common school community," and I am glad to see the gradual adoption of the phrase in general use. Once the full weight of that term is rightly interpreted it will be practically translated into new forms of social organization and co-operation wherever Anglo-Saxon principles of democracy prevail, and there will be re-established the township of old as the most efficient civic unit—only its character will be nobler than ever before, united as it is and vivified by eternal, by educational ties for educational ends.

Live parents' meetings tend to develop the social possibilities of the school probably more effectively than other agencies, but they are by no means the only available beginnings for the building up of the future school communities. Even where parents are not yet aware of the fact that the school belongs to them and that it is their rightful privilege and duty to make the most of its cultural and social potentialities, or where an un-American officialism has shut out parental co-operation, the way is being paved by the gathering of the young from various homes for purposes of being together, of working together, and of playing together. The bonds of union formed at school ought to be kept intact by organizations of various kinds, especially of alumni associations. Provision ought to be made that not one boy or girl shall be lost from view—thru any fault of the school. The school will be open to the former pupils and a secretary will try to keep track of them. They are worth following up. They are the most hopeful members of the developing school community. If they are sick their school comrades will know of it. If they are seriously in need of help, they will be especially commended to the proper charitable organization. The individual need not be lost in the mass, unless he willfully severs his old associations. Here are opportunities for well doing which no school ought to neglect.

The idea suggested in the subject of my paper, and more clearly indicated in the phrase school community, involves nothing less than a complete re-organization of civic society upon the principles already laid down in the development of the common school and summarized in that classic phrase of Horace Mann, "The universal education of the people in common schools free to all."

In the light of this thought, no radical departure is contemplated, but only a forward step marked out on lines of evolution. The state will practically be a federation of school communities, each the rightful warden of its social welfare, and each thoroly conscious of universal, social interdependence and the supreme importance of social co-operation in the working out of the destiny of mankind.

Our most immediate duty, then, is to open the school for purposes of recreation and social intercourse, as it is already helping on the intellectual and economic improvement of adults; thus making them veritable club-houses of the people. Above all else, keep hold of the boys and girls now in the schools. Let the educational interests remain pre-eminent, if you will, but do not let too narrow a conception of education assume the dictatorship.

The church's privilege of supplying recreation and amusement for its members in addition to the pursuit of their essential, spiritual mission, is in no wise interfered with. The school is open to everybody. That is its glory. Being free of social and religious bias it has natural advantages over other institutions in the matter of social endeavor. Therein lies its greater responsibility for extending fit opportunities for filling unoccupied hours with the right sort of activity, association, and recreation. Once the school community has entered its rightful heritage of responsibility for the intelligent and self-directive co-operation of its members in the carrying on of civilization, there will be no longer such clouds of embitterment, misinterpretation of motives and hatred, as have darkened our national life in recent months. OSSIAN H. LANG.

The Ultimate and the Proximate Aim of Education.

The ultimate aim of education I find in the liberation of the child and of man from the blind forces of instinct and heredity, giving him conscious control of his powers and environment, placing him in possession of the achievements of humanity and of the ideals of humanity, and leading him to an adequate appreciation of his responsibility with reference to the progressive achievement of these ideals.

The proximate aim of education, I take it, is to make the child, within himself, strong and self-reliant ; in his experience, sensible and thoro ; in his work, cheerful and earnest ; in his attitude towards others, sympathetic and helpful ; in short, to lead him to individual, social, and universal efficiency.

Boston, Mass. W. N. HAILMANN.

CHILD STUDY AND CHILD TRAINING.

Psychic Arrest in Adolescence.

FROM puberty on, psychic development is more uncertain, and the new story which nature adds to our being is unsteady. Hence, this period is very critical, and many are arrested before maturity. Lower races have a very short period of adolescence, but this is prolonged as we go up the scale and takes a larger and larger proportion of it. These laggards on the excelsior path, hoodlums, rowdies, vagabonds, vicious, idle dudes, dullards, and mattoids have often in childhood been full of promise, and then in early teens began to lapse and disappoint. Sometimes enthusiasm is lost, youth becomes indifferent and drops into humble stations with content, and there are often morbid symptoms.

Premature dementia is in its manifold forms and degrees very different from that of senility and has only very lately been fully recognized, so that we owe a great debt to the experts in insanity.

Three recommendations are made: Avoid strain, and make school work vital and interesting; special schools for dullards or slow children, both for their own sake and to relieve the school; more individual study of children at this age, and fourth, a special institution for graver cases of this kind.

Clark University, Worcester, Mass. G. STANLEY HALL.

[Synopsis of address before the Child Study Department of the National Educational Association.]

Cultivating Sympathetic Relations.

Children will conceal, so far as they can, their real purposes and acts from one in whose intentions towards them they have no confidence, as every display of these will be felt by them as putting themselves more and more at his mercy; whereas they will exhibit themselves without reserve before one in whom they trust. The teacher should, therefore, cultivate good relations with his pupils by the kindly and sympathizing tone in which he addresses his instructions to them, and in which he conducts the whole of the intercourse that naturally exists between him and them, not confining his concern to the special duties of school—for that may not appear o them quite disinterested—but extending it to those recreations which are incidental to school work, in the encouragement of which is motives are not open to suspicion. JAMES CURRIE.

Mental Activity of the School Child.

MIND AND THE NERVOUS SYSTEM.

HOW the brain and mind are united we do not know, but we do know that their relations are so intimate and their actions so blended, that it is sometimes difficult to allot their respective parts in what are termed mental phenomena. Often terms are used of the brain which are only applicable to the mind. But this must not be taken for more than it is. For it is a common thing to attribute to the instrument what is only true of the agent; as when we praise the pen of a Dickens, or the chisel of a Canova. For nothing is so clear that states of consciousness, and the conditions indicated by such sentences as I will, I ought, and I can, show that mind is essentially distinct from matter.

The brain and nervous system are placed as it were between the mind and the external world. They form the instrument by which the mind obtains its knowledge of things outside itself, and by which it acts on material things. All that is in the world would remain unknown to us, and all that we can do on external things by action or experiment would be impossible it it did not exist.

These relations should be studied and understood. Here are three things. First we have the material universe, with its phenomena, arrangements, and forces; then we have the mind, capable of knowing these phenomena, and of using these forces; and lastly we have an intermediate instrument, by which the two, the world and mind, are brought face to face with each other.

The universe, with its wondrous mechanism and powers, would be as tho it were not, if mind did not exist to know it and to use it; and this knowledge and use would be impossible to man but for that exquisite apparatus, the cerebro-spinal system. Consider for a moment what would be the condition of a child born blind, deaf, and without the senses of smell, taste, and touch. What knowledge could it have of the outer world? On the other hand, suppose a child to possess all the organs of sense, but to be destitute of motor nerves. How could it act or talk?

AUTOMATIC ACTION.

Many of the activities entering into the conscious life of the child are carried on by what is termed automatic action. The power which the brain and nerves have to receive, retain, and recover states, makes possible a large number of mental and physical phenomena in which the mind does not seem intentionally engaged. The control and direction of some of the bodily organs, as the legs, hands, and those of speech, have resulted in conditions in which certain actions may be commenced, and then continued without any conscious supervision by the mind. Again, actions go on in the brain itself of a like kind, such as the constant succession of states resulting in ideas and feelings similar to what have formerly existed. And this fact throws some light on most of the phenomena of memory, and other states of a still more recondite character. In all these cases we may recognize a mixture of mental and material forces and effects.

Automatic actions are not all of like degree. Some, like those termed mechanical, and those which are habitual, are of a more automatic character than others. These actions, or modes of action, were at first learned and practised with conscious intention; but at length, when once established, are often commenced and continued without any conscious efforts. Standing erect, walking, sitting, and many manual actions are cases in point. Other actions are of a mixed character. There is much that is automatic, but they are often commenced of intention, and they may be checked, directed, or otherwise controlled by the will. These actions are altogether of mental origin, and they always proceed on lines previously laid down by the will. Speech is a case in point. At first the child's efforts are at random and are attended by many failures; but at length the brain, nerves, and muscles "grow to" the required conditions, and automatic speech is possible. Take two instances. In ordinary conversation the thought and the volition initiate the movement and control it; but in the recitation of poetry, after the action has been intentionally begun, it may proceed while the mind is occupied with other thoughts. Composition may furnish a similar case. The mind may be so occupied with the thought and its expression, as to bestow no attention on the penmanship, which may proceed automatically.

This tendency to take a set and to become automatic is so great, that it explains the fact that many children with much practice make no improvement in some of their acquirements — as in penmanship and reading — and further accounts for the permanent habits of adult life. The remedy with the child is to induce it to make conscious efforts to improve on his previous performances.

THE MIND'S ACTION.

The mind acts on the brain, and has power to direct and control all its activities. The first fact to be distinctly conceived is, that automatic states owe their origin to the mind, and automatic actions proceed on lines which it has laid down. The next step is to get a clear notion of the actions which go on in consequence of the action and reaction of the mind and brain on each other. We find, for instance, a constant succession of ideas, thoughts, and feelings, without any conscious effort, but which proceeds according to well-ascertained laws. Advancing we find a sort of mixed action. The mind originates a course of thought, which as it proceeds is mingled with much that seems due to automatic action. A child solving an arithmetical problem is an illustration. Here the working out of its conditions and the elimination of anything not necessary are mental, while the calculations are automatic. These facts allowed, our next point is that altogether distinct from the physical organism we find a power to originate, direct, control, change, or suspend mental and physical states and operations. The power of attention, the power of choice, and the power of continuing or suspending its own operations demonstrate the existence of mind.

EDUCATION A COMPLEX PROCESS.

The education of the child must recognize this combination of mental and material agencies in its constitution. Much that the educator aims to accomplish will find its expression in those physical states and actions which form so large a part of the daily life of the child and of the man. How necessary that this educative process should be of the right kind! If it be not, conditions will be established which will impede the child's progress, neutralize much that the teacher does, or altogether frustrate his efforts. How important, to wit, must be the habits of brain, of mental working, of speech, and of manual actions to the progress of the child! How disastrous to all that should mark the man, if the automatic current of ideas, thoughts, and feelings should be trivial, mean, or impure!

Alongside of this automatic training must proceed those exercises which will call forth, train, and discipline the intellectual and moral powers. There must be no vain attempt to separate these. As a matter of fact it cannot be done. The quality of right or wrong is inseparable from every act of the intelligence. It is true that in the act itself there may be no moral quality — as in adding a number of figures. But these acts are always associated with other things, feelings, or claims, which give to them the aspect of duty. But the goal of the educator is that development of the conscience, and that culture of the will, which will make the youth the director of his own conduct. JOHN GILL.

The best thing about having rights is, that being ours we can give them up. GEORGE MACDONALD.

Ideas and Their Relations.

IDEAS are the means the teacher uses to act upon the minds of his pupils. He cannot afford, therefore, to be ignorant of the laws according to which ideas act. His success must depend largely upon his compliance with these laws.

We must be careful, in the first place, not to look upon ideas as things existing by themselves. Apart from a mind there can be no such things as ideas. When, therefore, we find people speaking of ideas coming from without, we must understand that they are using a figure of speech. You have an idea of *horse*, for example, and you may think that this idea must have come from outside, since there are no horses within the mind. But the place of the real horse is in the outside world, and the place of the idea of the horse is within the mind. An idea would be as much out of place in the outside world, as a real horse would be within the mind. The tendency to regard ideas as things having an independent existence is greatly strengthened by the fact that ideas do seem to have a power of their own. We often feel that we cannot control our thoughts. We resolve to expel a certain idea, but it refuses to go. At all manner of inopportune moments it obtrudes itself upon us. Little wonder, then, that we are tempted to regard ideas as things outside and independent of us. One old philosopher goes the length of comparing ideas to "living creatures having hands and feet."

IDEAS AS MENTAL MATERIAL AND AS MENTAL FORCES.

The fact is that ideas may be regarded from two different points of view. They may be treated as the mere furniture of the mind, mere inert things that can be moved about and placed into any relation with each other, just as tables, chairs, and pictures can be arranged in a room. From this point of view ideas may be called *presented content, i.e.*, material presented to the mind to be acted upon by it. But we have seen that ideas do not always tamely submit to be treated in this way. They are not always passive. Occasionally they become so strong that they force their way into the mind, and defy all efforts to expel them. From this point of view ideas must be treated as forces: they are no longer presented content, but *presentative activity*. That is, the idea is no longer regarded as material upon which the mind acts, but as a power which acts upon the mind. To all appearance, then, these considerations have widened the gulf between the mind and the ideas, and we seem to have found some support for the theory that the ideas have an independent existence. The mind and its ideas seem to be two separate forces at war with each other.

It cannot be denied that ideas have presentative activity, but we must not hastily assume that this activity is independent of the mind. As a matter of fact it is to the mind that the idea owes its activity, as indeed it owes its existence. If an idea has acquired such power that it can force its way into the mind, even when the mind tries to exclude it, the mind has itself to blame. To understand this we must seek to discover how ideas win their way into the mind at all.

PASSING IN CONSCIOUSNESS.

No one can tell exactly what consciousness is, but this need not greatly trouble us, since we all know what consciousness is without being told. Accordingly, we have no difficulty in understanding the statement that to have an idea is the same as to be conscious of an idea. To have been in consciousness is part of the meaning of an idea. Unless an idea has been at sometime or other in my consciousness, it is no idea of mine. For me it does not exist. For each of us at any given moment all the ideas we have ever had are divided into two unequal classes—the class that is in our consciousness at that moment, and the class that is not. Of the enormous number of ideas that have passed thru our consciousness, a proportion will probably never return. But every idea that has once been in consciousness has the *chance* of being recalled, and every time an idea is recalled it increases its chance of being recalled again. In other words, the oftener an idea is recalled to consciousness the greater its presentative activity. The idea therefore owes whatever power it may acquire to the mind upon which it exercises that power.

GROUPS OF IDEAS.

But ideas do not work alone: they form groups. The only way in which one idea can form a connection with another is by meeting it in consciousness. The more frequently two or more ideas meet in consciousness, the firmer the connection they form. In the case of the young child there are few groups of ideas, and not many ideas in each group. But with growing experience both the number and complexity of the groups increase. At first it is easy for a new idea to find place in the mind, but as the masses of ideas increase in number and complexity, they begin to exercise an important influence in dealing with new ideas. An idea fares differently according to the masses of ideas already formed in the mind to which it claims admittance. In one mind it is welcomed, in another it is rejected. The moral bearing of this will become apparent presently.

In the meantime we must look more closely into how ideas are related to one another in the mind.

SIMILAR, DISPARATE, AND CONTRARY IDEAS.

The oftener an idea is present in consciousness, the more clear and distinct it becomes. Every time we repeat an explanation of some term to a child, the present explanation mingles with and strengthens the explanation previously given. In this case we are said to be dealing with *similar* ideas, and the rule is that when similar ideas are brought together they *fuse*. Other ideas cannot be compared with each other at all. The idea of Moses is not of the same kind as the idea of Nebo: accordingly these ideas are not similar, and cannot fuse into one another. We can, however, think quite well of the two together: in fact it is very difficult to think of Nebo without thinking of Moses. They run into a complex whole in which each remains distinct from, tho related to, the other. This process of connecting is called *complication*, and ideas of this kind are known as *disparate*.

There is a third kind of ideas. These are not exactly similar to each other, but they are not so different from each other as are the disparate ideas. They belong to the same class of things, but differ within that class. The ideas of the different colors, for example, are of this kind. Red resembles green inasmuch as both are colors, but they differ in every other way. The effect of these ideas upon each other is peculiar. They do not fuse like similar ideas, nor do they form a complex like disparate ideas: they actually oppose each other, and do all they can to keep each other out of the mind. Red and green may certainly exist as ideas side by side in the mind. We may readily think of a red flower with green leaves. But here we are thinking of the flower, not of the colors by themselves. Suppose you try to think of red and of green at the same moment. You will find that you have to think first of the one and then of the other. You cannot have a clear idea of both at once; one is always clearer than the other, and the clearer the one becomes, the dimmer becomes the other. If you attain a clear and vivid idea of the one color, you will find that the other has disappeared altogether. Ideas of this kind—that is, ideas of the same class, but differing within that class—are called *contrary* ideas, and their action upon each other is described as *arrest*.

TENDENCY OF IDEAS TO PASS INTO ACTION

When two ideas are striving to arrest each other, the struggle must take place within the consciousness. In a sense we may be said to have the idea of red and the idea of green at the same time, but this only emphasizes the distinction between having an idea, and realizing an idea. We may be said to realize an idea when we give it our full attention, and let it develop its full meaning, and exercise its full force upon us. Some ideas realize themselves within the mind itself: they exhaust themselves by becoming distinct and vivid: they require nothing further. If we have a clear and vivid idea of red, for example, we are satisfied, we ask no more; the idea leads to nothing beyond itself. But if the idea of an action becomes vivid in the mind, there is a strong tendency for that idea to pass over into action.

If we think earnestly about a certain action, we find ourselves impelled to perform that action. If you make a clear picture in your mind of yourself performing some action, you will find that the longer you dwell on this picture the stronger becomes your inclination to perform the action, and if you retain the picture long enough, the inclination becomes practically irresistible. This fact explains whatever is genuine in those parlor tricks generally known as Thought-reading.

To the teacher the moral application is obvious. Temptation really consists in the effort of an idea to realize itself. If the idea is evil, then the temptation is to evil: but the teacher ought to remember that the same force may be used towards good. We may be tempted to good as well as to evil. The teacher's fight must be to put good ideas into the mind, and keep them there: he must be concerned more with good ideas than with evil ones. The moment the teacher speaks of an evil idea, he increases its presentative activity, and thus, to some extent, aids it to realize itself. We must fight evil indirectly by supplying ideas of good. This is the teaching of Paul when he says, "All uncleanness or covetousness, let it not be once named among you." We must nurture the mind with ideas of good, and starve it in respect of ideas of evil.

THE THRESHOLD OF CONSCIOUSNESS.

We often talk of the field of vision, meaning the area that the eye can take in at one time. But the eye does not see the whole field with equal clearness. The middle of the field is seen best, and is called the center of vision, and the contents of the field are seen more and more dimly according to their increasing distance from the center, till we reach the boundary of the field, beyond which they are not seen at all. Whatever is at the center of vision is said to be *focal*, while all the rest within the field is more or less marginal. The same figures are applied to the field of consciousness. Whatever we are thinking of specially at any moment is said to be focal, but we have always many more ideas in the mind than we are clearly conscious of. These ideas, according to their greater or less degree of clearness, are regarded as less or more marginal.

It is fashionable to call the boundary of consciousness the *threshold* of consciousness. The nearer an idea is to the threshold the dimmer it is, while it gains in clearness as it approaches the center or focus. At this moment, for example, if you are in earnest about some little book, you are thinking about the threshold of consciousness. This idea is focal. But there are present also the idea of a door or a doorway, the idea of the field of vision, the idea of the strangeness of this way of regarding the contents of the mind. In addition, there are marginal ideas having nothing to do with your present study, but connected with your private interests and your immediate surroundings. You may have a vague sense of uneasiness because the room is too hot or too cold, a neglected duty may be making itself felt at the margin, and an anticipated gratification may be gradually struggling towards the focus.

APPERCEPTION.

The goal of every idea is the center of consciousness, the focus. Since there are so many ideas the competition for the coveted spot is very keen, and no idea can hope to hold it long. As a matter of fact the contents of the field of consciousness are continually changing, and even when we try to keep one idea focal for any length of time, we find it impossible. Here again we seem to find the ideas exercising a power that is independent of the mind, so we had better set about discovering how ideas find their way back into consciousness, after having once established a footing there. If an idea has very great presentative activity it can thrust itself into the mind the moment the field is clear. When you are greatly interested in any one subject—the passing of an examination, the change of your situation, the state of your health or your purse—you find that ideas of this subject force themselves upon your consciousness at every moment that your mind is not particularly engaged with something else. This is known as *immediate recall.* The ideas need no help: they come back thru their own strength.

Other ideas, weak in themselves, owe their recall to the influence of their friends. The *masses of ideas* of which we have already spoken come into consciousness, or are driven from it, *in a body.* If for any reason one idea belonging to a mass finds its way into consciousness, it forthwith drags in the whole mass along with it. This is known as *mediate* recall, because certain ideas are recalled by means of, or thru the mediation of other ideas. The process of treating each idea presented to the mind according to the ideas already in the mind, is called *apperception*. It means the understanding of a newly-presented idea by the help of all the ideas the mind already possesses. This is what is meant when we call the masses of ideas by their formidable full name—*apperception masses*. These are the masses of ideas which are used by the mind in dealing with a new idea, so as to fix for it its true place among the rest.

CHARACTER OF THE MIND.

A little reflection will make it clear that the kind of apperception masses in the mind really determines what kind of mind it is. If the mind is full of well arranged masses of ideas of good, these will continue to hold the field of consciousness in spite of the efforts of evil ideas to find a place. You must observe that we need not make the impossible demand that no evil idea shall be admitted into the mind. In Bunyan's "Holy War," you may remember, there are in Mansoul five gates: Eye-gate, Ear-gate, Nose-gate, Mouth-gate and Feel-gate. Now these gates stand open all the time that we are awake. We cannot shut them: and evil ideas will enter, in spite of all our precautions. Going along the street we may see things and hear things that are full of evil. The ideas enter our minds in spite of us. But if we cannot prevent their entry, we can prevent their stay. Unless an idea is welcomed in the mind, it cannot remain. Only by joining itself to friendly ideas so as to make up a little apperception mass, can any idea secure an established position in a mind.

POSITIVENESS RATHER THAN PROHIBITION.

The presentative activity of an idea may be temporary or permanent. At any moment an idea may have so great activity as to capture the center of consciousness and become focal, but unless it has an acquired force to fall back upon, it soon loses its place. The only way in which an idea can acquire force is by coming frequently into the consciousness, and by forming connections with the ideas it finds there. It is the teacher's business so to arrange the ideas in the child's mind that they shall offer no welcome to undesirable ideas. We have seen that he must fight evil indirectly. His injunctions should not take the form *thou shalt not*, but rather the form *thou shalt*. He should teach positively rather than negatively; by giving examples of what should be done rather than by examples of what should be avoided. For it is found that the actual example is what interests the child, rather than the advice to follow or not to follow it.

Since imitation is one of the strongest forces of our nature, the danger is evident when we teach by means of what is known as "the awful example." Children cannot be kept entirely from knowledge of evil, but the ordinary experience of life brings quite sufficient exercise in resisting temptation without the teacher supplying evil examples for educative purposes.

UNITY OF THE MIND.

Let me warn once more against the belief that ideas have any existence apart from the mind. When we say that an idea has acquired great presentative activity we are only using a convenient way of saying that the mind has acquired a strong tendency to act in a certain way. There are no such things as apperception masses: what really exists is an acquired tendency of the mind to combine into one harmonious power a greater or smaller number of forces that are originally exercised independently of each other. It is found, however, that it is easier for most people to understand a mass of ideas than a correlation of forces, and so long as no misapprehension arises about the nature of the mind, no harm is done. But we must clearly recognize that the mind is one and indivisible: it is not "made up of" faculties and ideas. It is a whole and works as a whole. Ideas are but the forms in which its activity makes itself manifest.

JOHN ADAMS.

University of London.

It is important that the child be kept open to educative influences as long as possible. Every form of arrest of development must be carefully guarded against. Hence it becomes necessary to ascertain the effect of every sort of training upon the further growth of the child. For instance, do methods of teaching arithmetic by the use of blocks, objects, and other illustrative material advance the child or retard him in his ability to master the higher branches of mathematics? What effect upon the pupil's ability to understand history does great thoroness in arithmetical instruction have; for instance, does it make any difference whether there is only one lesson in arithmetic a day or one each in written arithmetic and in mental arithmetic? Does a careful training in discriminating fine shades of color, permanently set the mind of the pupil towards the habit of observing tints of color to such an extent as to make the mind oblivious of differences in form or shape and especially inattentive to relations which arise from the interaction of one object upon another? Questions of this kind relate directly to the formation of the course of study and the school program.

Washington, D. C. WILLIAM T. HARRIS.

METHODOLOGY OF EDUCATION.

On the Study of Literature.

IN the words of one of the most winning writers of English that ever existed—Cardinal Newman—the object of literature in education is to open the mind, to correct it, to refine it, to enable it to comprehend and digest its knowledge, to give it power over its own faculties, application, flexibility, method, critical exactness, sagacity, address, and expression. These are the objects of that intellectual perfection which a literary education is destined to give. It is sometimes best to study books, sometimes authors, and sometimes subjects; but at all times it is best to study authors, subjects, and books in connection with one another. Whether you make your first approach from interest in an author or in a book, the fruit will be only half gathered if you leave off without new ideas and clearer lights both on the man and the matter.

One of the noblest masterpieces in the literature of civil and political wisdom is to be found in Burke's three pieces on the American War—his speech on Taxation in 1774, on Conciliation in 1775, and his letter to the Sheriffs of Bristol in 1777. No student worthy of the name will lay aside these pieces, so admirable in their literary expression, so important for history, so rich in the lessons of civil wisdom, until he has found out something from other sources as to the circumstances from which the writings arose, and as to the man whose resplendent genius inspired them. There are great personalities like Burke who march thru history with voices like a clarion trumpet and something like the glitter of swords in their hands. They are as interesting as their work. Contact with them warms and kindles the mind. You will not be content, after reading one of these pieces, without knowing the character and personality of the man who conceived it, and until you have spent an hour or two—and an hour or two will go a long way with Burke still fresh in your mind—over other compositions in political literature, over Bacon's civil pieces, or Machiavelli's prince, and others in the same order of thought.

WHAT IS LITERATURE?

Literature consists of a whole body of classics in the true sense of the word, and a classic, as Sainte-Beuve defines him, is an "author who has enriched the human mind, who has really added to its treasure, who has got it to take a step farther; who has discovered some unequivocal moral truth, or penetrated to some eternal passion, in that heart of man where it seemed as tho all were known and explored; who has produced his thought, or his observation, or his invention under some form, no matter what, so it be great, large, acute, and reasonable, sane and beautiful in itself; who has spoken to all in a style of his own, yet a style which finds itself the style of everybody, in a style that is at once new and antique, and is the contemporary of all the ages." At a single hearing you may not take all that in; but if you should have any opportunity of recurring to it you will find this a satisfactory, full, and instructive account of what is a classic, and will find in it a full and satisfactory account of what those who have thought most on literature hope to get from it, and most would desire to confer upon others by it.

Literature consists of all the books—and they are not so many —where moral truth and human passion are touched with a certain largeness, sanity, and attraction of form. My notion of the literary student is one who thru books explores the strange voyages of man's moral reason, the impulses of the human heart, the chances and changes that have overtaken human ideals of virtue and happiness, of conduct and manners, and the shifting fortunes of great conceptions of truth and virtue. Poets, dramatists, humorists, satirists, masters of fiction, the great preachers, the character-writers, the maxim-writers, the great political orators—they are all literature in so far as they teach us to know man and to know human nature. This is what makes literature, rightly sifted and selected and rightly studied, not the mere elegant trifling that it is so often and so erroneously supposed to be, but a proper instrument for a systematic training of the imagination and sympathies, and of a genial and varied moral sensibility.

HISTORY OF LITERATURE.

Books are not the products of accident and caprice. As Goethe said, if you would understand an author, you must understand his age. The same thing is just as true of a book. If you would comprehend it, you must know the age. There is an order; there are causes and relations. There are relations between great compositions and the societies from which they have emerged.

LITERARY EXPRESSION.

I have very little faith in rules of style, tho I have an unbounded faith in the virtue of cultivating direct and precise expression. But you must carry on the operation inside the mind, and not merely by practising literary deportment on paper. It is not everybody who can command the mighty rhythm of the greatest masters of human speech. But every one can make reasonably sure that he knows what he means, and whether he has found the right word. These are internal operations, and are not forwarded by writing for writing's sake.

I am strong for attention to expression, if that attention be exercised in the right way. It has been said a million times that the foundation of right expression in speech or writing is sincerity. It is as true now as it has ever been. Right expression is a part of character. As somebody has said, by learning to speak with precision, you learn to think with correctness; and firm and vigorous speech lies thru the cultivation of high and noble sentiments. I think, as far as my observation has gone, that men will do better for reaching precision by studying carefully and with an open mind and a vigilant eye the great models of writing, than by excessive practice of writing on their own account.

Cultivate that golden art—the steadfast use of a language in which truth can be told; a speech that is strong by natural force, and not merely effective by declamation; an utterance without trick, without affectation, without mannerisms, and without any of that excessive ambition which overleaps itself as much in prose writing as it does in other things.

CULTIVATION OF THE HEART AND OF CHARACTER.

The end of education on its literary side is to make a man and not a cyclopædia, to make a citizen and not a book of elegant extracts. Literature does not end with knowledge of forms, with inventories of books and authors, with finding the key of rhythm, with the varying measure of the stanza, or the changes from the involved and sonorous periods of the seventeenth century down to the staccato of the nineteenth century, or all the rest of the technicalities of scholarshrip. Do not think I contemn these. They are all good things to know, but they are not ends in themselves. The intelligent man, says Plato, will prize those studies which result in his soul getting soberness, righteousness, and wisdom, and he will less value the others. Literature is one of the instruments, and one of the most powerful instruments, for forming character, for giving us men and women armed with reason, braced by knowledge, clothed with steadfastness and courage, and inspired by that public spirit and public virtue of which it has been well said that they are the brightest ornaments of the mind of man.

Bacon is right, as he generally is, when he bids us read not to contradict and refute, nor to believe and take for granted, nor to find talk and discourse, but to weigh and to consider. Yes, let us read to weigh and to consider. In the times before us that promise or threaten deep political, economical, and social controversy, what we need to do is to induce our people to weigh and consider. We want them to cultivate energy without impatience, activity without restlessness, inflexibility without ill-humor.

After all, the thing that matters most, both for happiness and for duty, is that we should habitually live with wise thoughts and right feelings. Literature helps us more than other studies to this most blessed companionship of wise thoughts and right feelings.

JOHN MORLEY.

[Extracts from an address before the London Society for the Extension of University Teaching.]

English Composition and Essays.

ONLY in very rare cases in the past has English composition been taught both systematically and well. Such schoolmasters as are capable of writing a good essay have acquired the art largely by the happy gift of nature, or indirectly from the practice of Latin and Greek composition and the study of English models which that practice involved, or from practice at the university and in maturer life. Many reasons, besides their own independence of it, make them distrustful of systematic teaching of this subject. Many dislike the pedantry of the old-fashioned text-book of composition, with its mischievous assumption that all essays ought to be cut after one pattern, or its baneful directions for writing out the obvious and commonplace at full length. Others fear to foster cant, literary, artistic, moral, or religious, by essays in which the pupil may be tempted to express sentiments he does not feel.

Meanwhile, the need for really adequate teaching of English composition is becoming more urgent. Every year the proportion of boys in secondary schools who learn their own language thru the study of Latin and Greek grows steadily smaller. Only when we have abandoned the practice of classical composition shall we realize how splendid a training it gave in our own language. The periods of Burke or Gibbon, the lines of Milton or Shakespeare, were studied with a probing to the bottom of their meaning, a minute attention to each shade of expression, a careful weighing of each deliberate or unintended emphasis and subtlety of rhythm or association, such as we shall probably never attain in any other circumstances. To all who have had the good fortune to undergo this training the want of it is lamentably apparent in the work of popular writers of the present day. The best and purest English may indeed be written without it by the favored child of genius; but even he is almost certain to suffer at some point from the lack of that self-criticism which is the happy fruit of this most strenuous form of literary training.

If the English essay cannot do all that has been accomplished for the ablest boys by Latin and Greek composition, it is at least certain that it can be made to do a great deal more than it has generally done hitherto. I will go further, and say that I believe that in some important respects it can be made to do a great deal more than classical composition by itself can generally achieve. For classical composition is undoubtedly exposed to the weakness of concentrating attention upon the manner as distinguished from the matter—of leading its practitioners to care more for the way in which they say a thing than for the intrinsic value of the thing said. English composition, too, may easily be taught with the same deplorable result. But it may also be made what classical composition cannot be made so easily—a training in thought even more than in expression.

In order that it may be made this, the teacher must have a high ideal before him and be prepared to give time and thought. He must choose subjects that are within the comprehension of his pupils and are capable of interesting them. But his anxiety to conciliate in these two ways must never lead him to forget that his first object is to educate his pupils, to widen their comprehension, to enlarge their interests. He must not be too careful to keep at their level; he should be continually seeking to lead them to a higher. Treated in this spirit, the English essay may be used to foster observation and reading, independence and clearness of thought and breadth of sympathy—in a word, all that we mean by culture. And even so we have not exhausted its usefulness. For there is a sense in which the "art of words" is not what Plato was fain to consider it—the mischievous rhetoric that is set upon making the worse appear the better reason—but one of the most valuable arts of life, the art of self-expression. How many misunderstandings, some of them tragic in their consequences, might be avoided by the cultivation of this power! From the statesman, whose failure to measure the significance of the words he uses misleads his party or his country or inflames the hostility of a foreign nation, to the humblest member of the community, there is no one who can forego this art with impunity. Yet there is no art we take so little pains to acquire.

HINTS WORTH HEEDING.

In the earlier stages oral preparation in class in essential. The pupils should be encouraged to frame complete sentences orally. It is too often forgotten that the Socratic method is not seen at its best when Glaucon and Adeimantus give the "Yes" and "No" which the reader anticipates as inevitable, but when one of them strikes out an original suggestion or an unexpected objection. This they do somewhat rarely, even in Plato. Perhaps we can hardly look for it, then, at the stage of which we are speaking. But even beginners can be practised in the putting together of whole sentences orally, in the telling of a consecutive story, or in the oral recapitulation of a lesson. Thus they will be more likely to understand, when they come to write, that no sentence is complete without a subject and a predicate.

Most essays in this stage will be narrative or descriptive. There are fortunately a variety of simple objects—cats, dogs, birds, flowers, pictures, houses, games—that come within the scope of the most inexperienced child's observation. To these should be added some subjects for which the teacher supplies the material. History and geography lessons should be utilized, if only to help the child to realize the interdependence of his studies—that progress in one can be made to help progress in the others. The reproduction of stories or historical incidents will form a valuable exercise in composition, provided that a little time is allowed to elapse between the original reading and the reproduction. If the reproduction is immediate, it becomes a mere effort of memory. At the same time, whenever an essay, whether of the nature of reproduction or not, is based upon a book, it is important that the pupil have no access to it.

As to correction, it should never be limited to the criticism of writing, spelling, and grammatical mistakes. Written correction in most cases cannot go far beyond this, nor is there any reason why it should. Errors of taste, flaws in reasoning, faults of arrangement, generally fall into a few well defined groups. The teacher can make notes of illustrative instances as he reads thru the essays and comment on them to his class. He may sometimes find it a good plan to write, or sketch orally, a sort of "fair copy." If he does this, he should make it clear that he is giving only one out of several possible ways of handling the subject—that there is no cut-and-dry pattern for the English essay. The correction of compositions, as of all school exercises, should be prompt. A class will only be interested in the discussion of an essay as long as their own efforts and difficulties are fresh in their recollections. These remarks apply to all grades of composition teaching.

In the higher grades a much greater variety of subjects is obviously available. Quite as much as in the lower stages, or even more, the essay should be brought into relation with the school subjects—the period of history which is being studied, the foreign or classical author who is being read. But subjects removed from the regular school course should sometimes be chosen just as deliberately. For the essay must now be made to stimulate and widen a pupil's reading, and to teach the beginnings of literary criticism and moral reflection. Here, again, we can hardly expect our pupils to think for themselves, if we set them subjects on which they can find the thinking done for them. But a little forethought will often discover a subject for which the pupil can get no direct help from books, tho he must read books in order to treat it properly. If we demand a character of Achilles or Hotspur, for example, we may be sure that no boy who finds remarks upon them in an introduction to Homer or Henry V. will make his reflections independently. But we may profitably ask for a comparison between the two characters. Some boys at least will be sufficiently interested to read Homer and Shakespeare for themselves, and draw out the points of likeness and of contrast. It would be difficult to rate too highly the value of the mental stride a pupil takes when he first consciously makes a literary and ethical judgment of this kind for himself. A valuable mental exercise is also afforded by talking to a class on a subject that might be too difficult for them to handle unaided, and then setting them to write an essay on it. In this case a wise teacher will know how to encourage any signs of independent thought or study on the part of his pupils. Again, the lectures on scientific or artistic subjects that are occasionally given at most schools may be used to provide subjects. But care should be taken to find, in this as in every other case, a subject that is capable of being treated in a limited compass. Most lectures are inevitably discursive, and the pupil, if left to himself, will be lost in the wood of the lecturer's anecdotes.

Finally, may I urge that we defeat our own object if we require essays too often? For we want our standard, for our best pupils at least, to be a high one, and the best work cannot be done every day. I believe that an original essay ought not, in the highest forms, to be written more than once a fortnight at most. In alternate weeks exercises might be given in the reproduction of passages read aloud from the great prose writers, in the translation of extracts from the Elizabethan writers into modern prose, in the analysis of sentences, or the disentanglement and reconstruction of faultily constructed periods. J. H. Fowler, M.A.

[Slightly abridged from an article in *The School World*.]

CLASSICS AND HISTORY OF EDUCATION.

Childhood and Boyhood.

MAN'S education proper begins with the stage of childhood. Care for the body is lessened, care of the mind increases.

At this stage the child is first to behold everything aright; and next to name it aright, distinctly and clearly; both objects themselves, and their nature and qualities. It should name the relations of objects, as to space and time and to one another, correctly; each one by its right word, and each word clearly in all its parts: tone, accent, ending.

The child when speaking, does not separate word and thing, any more than flesh and spirit, body and soul. This is specially shown in children's play. When at play, the child likes to talk as much as it can, and makes everything talk, believing that every object feels and can utter its feeling, whether stone, plant, or animal.

As a chief purpose of all child-life, educators should give the child as much acquaintance as possible with *Nature*, and her bright, calm objects. This is chiefly to be done by means of play, by fostering the child's play; which at first is just its natural life.

Play is the highest point of human development in the Child-stage, for it is the free expression of the child's inner being. Play is at once the purest, and most spiritual, product of the human being at this stage; it is a type and copy of all human life; of the inward natural life that is in man and in all things; and it brings forth joy, freedom, contentment, rest within and without, peace with the world. The sources of all good are in play, and come forth from it. A child that plays with vigor, quietly active, persevering even to bodily fatigue, will surely grow up to be a quietly capable, persevering man, who will further his own and others' good, by self-sacrifice. What sight more beautiful can we find in early childhood than a child at play, a child wholly absorbed in its play, a child fallen asleep over its play, because so thoroly absorbed?

Play, at this age, is not mere sport; it possesses high seriousness and deep meaning. In the self-chosen games of a little child, the inner life of its future may be seen by the calm penetrating sight of one who has studied mankind. The games of childhood are the heart-leaves of the future life; for in them the whole man unfolds and shows himself in his most delicate gifts, in his inner being.

Let us live with our children, let them live with us: so shall we gain thru them what all of us need. Let us give to our children, let us procure for them what we ourselves lack! What *we* no longer possess—the all-animating, all-shaping force of child-life—let us import from them, into our own lives! Let us learn from our children; let us give ear to the gentle monitions of their life, the quiet demands of their heart. *Let us live for our children.* Thus will our children's life bring us peace and joy; thus shall we begin, ourselves, to grow wise, to be wise.

The whole of what surrounds man, the outer world, cannot be recognized at once in its unity; but only thru knowledge of each object's own nature and essence. . . . .

Just as the stage of childhood consisted in living, in life, for its own sake, and aimed at externalizing the internal; so boyhood—is prominently the stage of internalizing the external; the stage of *Acquisition.*

Boyhood coincides with school-age; whether the schooling be at home or abroad; under the father, or some other member of the family; or a teacher by profession. In the word *school,* therefore, we understand neither school-room nor school-keeping; but the conscious imparting of various knowledge, for a conscious aim with conscious inward connection.

The development of man for attaining his destiny—fulfilling his vocation—always has been and still is, a whole, steadily advancing, rising unbroken from step to step. Out of the social feeling aroused in the nursling, grow impulse, inclination in the child; these again lead to unfolding of heart and disposition; and thence, in the boy, grow activity of intellect and will. To raise activity of will into firmness; to mold and animate a pure, firm, enduring will, so as to realize and practice genuine humanity, is the chief aim and final goal of the boy's training by school and instruction. . . .

That which in the little child was action for action's sake, becomes in the boy, activity for the sake of doing—producing—*something.* The child's impulse of activity has unfolded in the boy, into a *formative impulse,* a *desire to create;* and this desire becomes simply the strongest visible characteristic of the boy.

At this stage boy and girl begin to take delight in trying to share father's or mother's work; not playwork; no, no! what calls for exertion.

Let parents early cherish their children's active instincts; and especially this formative impulse of boyhood, even if it do cost them a little self-command and sacrifice.

The boy wants to share the home labor—to be lifting, drawing, carrying water, splitting wood. He wants to try his own strength on everything, that his frame may grow stronger, and that he may know what he can do. The boy follows his father everywhere, into garden, field, and wood; goes with him into the workshop; to tend the animals, or mend the tools—whatever the father has to do. Question upon question bursts out of the boy's heart, which is athirst for knowledge. "How? Why? When? Whence? What for?" And any tolerably complete reply opens up to the boy a new world. *Speech seems to him the mediator of all Things.*

The healthy boy, simply brought-up, never avoids or tries to escape an obstacle, a difficulty: he looks for them, he overcomes them. "Let it be," cries the lad, when his father wants to move a piece of timber out of his way: "let it be, I'll get over it." It is hard to get over but he does it: and with strength and courage grown he goes back, climbs over the obstacle again, and soon skips over it, as tho nothing were in the way. Hence comes his bold, venturesome strength; he creeps into caves and clefts, climbs trees and hills, searches heights and depths, wanders in woods and fields. The hardest is easy, and the most dangerous safe, when the impulse to it comes out of the inner nature, the heart, the will.

Besides this impulse to use, try, and measure his own powers, something else drives the boy into height, and depth, and distance. A need is growing out of his inner life to survey the manifold; to see, as a whole, what is divided; especially to *bring near what is distant*, to understand distance, manifoldness, everything! The climbing of a new tree is to the boy the discovery of a new world. Seen from above everything looks quite different from what it is when seen crowded and foreshortened, on the level. Could we recall the feelings that widened our Soul and Heart when as boys we saw from tree-top the narrowing bounds of common view disappear, we should not so coldly call out to him, "Come down: you will fall!"

But our energetic boy will not be found always on height, or in depth and shade. The same endeavor to get round-, over-, and insight, that took him to hill and dale, is with him on the plain. See! there at the edge of his father's ground he makes a little garden: there, in the wheel-rut, or by the ditch, he mimics the course of a river: here, he gets a nearer and clearer view of the fall and pressure of water by his own little water-wheel: here, he studies the floating of a bit of thin wood, or bark, on the water which he has banked into a pool.

The boy at this age, too, is so fond of occupying himself with any kind of shapeable matter, as sand or clay, that we might call it a vital element for him. *Having once gained the feeling of power* *he seeks to rule over matter,* to control it: everything must submit to his impulse of shaping and forming. In a hillock he will have a cellar, a cave; upon it a garden, or a bench. Boards, branches, laths, and poles make him a hut; deep snow is heaped into walls and ramparts, for a fortress: the rough stones on a height form a castle.

Thus each one shapes his own world; for the feeling of strength that is one's *own,* soon requires the possession of a *space and material that is one's own.* Let the boy's realm, his province, be it a corner of the garden, the house, or the room; let it be the space of a band-box, a trunk, or a drawer; let it be a cave, a hut, a garden-plot: he, the human being, the boy at this age, must have a real, material center of his own; best of all if it be self-made, or self-chosen.

GARDENS.

At this age, it is most desirable that children should *cultivate gardens of their own;* and for useful production, too. [They may grow vegetables for themselves.] Thus, first, a human being sees the fruits of his own labor. For, tho subject to laws of nature which he cannot control, he sees the results depend much on his own activity. Thus the boy's life with nature; his questions about her; his longing to become acquainted with her, get full and varied satisfaction. If the boy cannot have a garden of his own, at least a few plants in box or pots should be his; not choice or rare flowers, difficult to manage, but hardy plants, abundant in leaves and bloom.

The Play [or voluntary occupation] of this school-age does not wholly consist of mere representation of objects; many games are simply for trial, comparison, and display of strength. . . .

In such games the boy becomes aware of his own strength, feels it grow and improve in himself and his comrades, and is thus filled with vivid and eager pleasure. Nor is it by any means bodily strength alone that finds solid nutriment in these games: the mental and moral forces are thereby raised, confirmed; more, if possible, even than the physical. Justice, moderation, self-control, truth, faithfulness, kindness, and strict impartiality too. Does not every one who approaches a circle of such boys at play [that is, *such* as have had fair chances in infancy and childhood] scent the fragrance of these flowers of heart, and mind, and will? Bright-colored, if less fragrant blossoms, too, are there; courage, endurance, resolution, presence of mind, along with sharp penalty, perhaps expulsion, for the too easy-going and lazy. If you love to inhale a fresh, a *refreshing,* breath of life, visit such a playground.

All this ought to be considered by those who scarcely approve, only just endure, for playgrounds to have a place in the education of boys.

Every town ought to have a special playground for its boy-world; and the results to the whole community would be admirable.

The games of this stage of life are, when possible, social; therefore they tend to form and unfold social feeling, the laws and claims of society. The boy wants to see himself in his fellows, to feel himself in them, to measure and weigh himself by them; thus to know himself by them and in them; so these social games prepare directly for life; they waken and nourish many civil virtues.

But the seasons and other circumstances may hinder the boy, when free of home- and school-duties, from using his strength in the open air; *and the boy is never to be idle on any account.* Therefore, various indoor occupations make an essential part of boy-life and boy-training; specially such as one calls handiwork: *e.g.*, construction in paper and cardboard, &c.

But there is in man another endeavor, another longing, another demand of the heart, which is not to be satisfied by any or all of these material occupations. The present, with all its fullness and wealth, does not suffice him. From seeing that something *is*, to-day, he infers that something *was*, in the past. He would like to know the reason, the cause, which is gone, of what now exists; he wants the remains of old time to tell him about themselves, and their causes, and that old time. Cannot every one remember that, when in his riper boyhood he saw old walls, and towers, the ruins of an old building, or memorial stones and pillars upon heights, there awoke in him a longing to be told all about these objects, their age and meaning, by those who must know, his elders? He wants the ruins themselves to tell him stories, to narrate their history to him: and so is developed in the boy [and girl] of this age the *demand for stories, for legend; by-and-by, for history.* This demand, especially at first, is so strong that when not satisfied by others, boys try to gratify it for themselves.

The present, moreover, in which the boy is living, contains much that he cannot explain for himself, and would like to have explained; much that seems to him dumb, yet he wants it to speak; much that seems to him dead, and he would so like to have it living and lively. He wants to hear from others the interpretation of all this; to have the voice of these speechless objects made audible; he desires to hear in words that inner living connection of all things which he dimly feels. But other people are but rarely able to gratify the boy's wishes; and so there unfolds in him a longing for stories of human life and fairy-tale. . . . .

A guessing and longing, a deep significant feeling in the boy's mind at this period, pervades everything that he does. All his doing has a social character; for he tries to find the unity which makes all things and beings one, and to find himself in and among all things.

A boy of this age, naturally brought-up, is seeking—however weak and unconscious the indications may be—is seeking the unity which makes all things one, the necessary living unity—the foundations of all things—God.

This is the free-acting inner and outer life of Man as schoolboy. What, then, is *School?*

John Amos Comenius in his Robe as Bishop of the Moravian Brethren's Church.
Born, March 28, 1592; died, November 15, 1670.

Copy of a life-size portrait which was for many years in the possession of lineal descendants of Comenius. The original was presented by his great-great-grandson, Wilhelm de Irwing, of Berlin, in the year 1798, to the Executive Council of Elders of the Moravian Church in Germany. It has hung, since then, in the Council Chamber in the Castle at Berthelsdorf, near Herrnhut, Saxony, in which the Executive Council holds its official sessions.

John Locke.

[A Biographical Sketch].

THE philosopher, JOHN LOCKE, was born at Pensford, a village six miles from Bristol, A. D. 1632. Tho in poor health the greater part of his life he reached the age of 72, and died in the autumn of 1704. Of his early days we know little. He was not, like most great men, "his mother's child." Thruout his life the reason seems to have encroached in him on the affections; and this we may attribute to the absence of female influence. We know nothing of his mother, and all that he told his friend, Lady Masham, about her was that she was "a pious woman and affectionate mother." The family consisted of John, the first child, and Thomas, born five years later. There were no other children, and the mother may have died young. The father was the ruling spirit, and in those troubled times he was a stirring man abroad as well as at home. A lawyer by profession he took up arms in the cause of the Parliament, and so became " Captain Locke."

The Captain used his influence with the victorious party to get his son into Westminster School, and thither the boy, who had till then been brought up at home, was transplanted at the age of fourteen (1646). Here he remained till he was twenty, when he gained a Junior Studentship at Christ Church, Oxford.

Christ Church was not then so pleasant a place of residence for undergraduates as it has since become. Mr. Fox Bourne gives us an account of an ordinary day's work, which must astonish the modern student. Locke had to be in chapel at 5 a. m., when besides the prayers there was often a sermon. With an interval for breakfast his time was then taken up till midday dinner with attendance at the lectures of the professors, or preparation for these lectures with the college tutor. At dinner no language might be spoken but either " Greek or Latin." In the afternoon came another public lecture, and then the university disputations and declamations. In the evening he had again to attend chapel and afterwards to go to his tutor's rooms for private prayers, and to give an account of his day's occupations. This was his mode of life till he got his Bachelor's degree in February, 1655.

He found so " little light brought to his understanding," that he regretted his father had sent him to the university, as he began to fear that " his no greater progress in knowledge proceeded from his not being fitted or capacitated to be a scholar."

In 1660 John Locke, the father, died, and the elder son came into a small property. Of the younger son, Thomas, we know nothing, except that he died of consumption soon after the father. Locke had now taken his Master's degree and obtained a Senior Studentship at Christ Church. He was friendly to the Restoration, and seems for a while to have overcome his dislike to the Oxford scheme of studies, for he became tutor of his college and the college reader in Greek and in rhetoric. He no longer attributed the seeming obscurity of Oxford philosophy to his own want of penetration. He had studied Des Cartes, and without becoming his follower had found him perfectly intelligible. Locke had much in common with Des Cartes. Des Cartes had been as little satisfied with the learning he gained from the Jesuits at La Flèche, as Locke had been satisfied with the learning of Westminster and Oxford, and like Locke he had been driven to seek in society the wisdom he had not found in the schools. With the study of Des Cartes began Locke's interest in philosophy, but it was many years before this turned him into an author.

In 1665 he was appointed secretary to Sir Walter Vane, our ambassador to the elector of Brandenburg, and he went with the ambassador to Cleve. This mission over, he was offered diplomatic service in Spain; but he declined it, and returned to Oxford. He was not ambitious, and perhaps he found that his health would not stand the wear and tear of public life. His settled conviction was that "amidst the troubles and vanities of this world, there are but two things that bring a real satisfaction with them, that is virtue and knowledge."

Oxford offered him great advantages for the calm pursuit of knowledge, especially for investigations in physical subjects, for which a kind of school had been formed by his friend Boyle. So he gave up diplomacy for medicine; but soon he became connected again with public affairs and with education.

An accident led to his introduction to Shaftesbury, then Lord Ashley, at Oxford, in 1666. Ashley saw at once that Locke was no ordinary doctor, and he found such pleasure in his society that he contrived to attach him to his family in an undefined position, partly as physician and partly as friend. Locke at this time did not shrink from responsibility as a doctor. Lord Ashley was suffering from an internal tumor caused by a fall from his horse. Locke undertook the delicate operation of drawing off the matter by inserting a silver tube. The operation was successful, and Lord Ashley believed himself indebted for his life to his friend and physician. In this family, duties still more delicate devolved on the philosopher. He had great influence over the lives of the first three earls. Of these the first was "Achitophel," the second, a man of no further distinction than his title gave him, was indebted to Locke partly for his education and entirely for his wife. The third Lord Shaftesbury, the author of the *Characteristics*, was educated according to Locke's advice during the lifetime of the grandfather, tho he was afterwards sent by his father to Westminster School.

Locke's occupations in Lord Ashley's family were very varied, including the settlement of "the Government of Carolina;" so that he could not get into professional habits; and before he reached his fortieth year he was attacked by the cough which made him an invalid the rest of his days. His "carcase was made of a very ill composition," as he himself wrote at this time; and residence in London was very trying to it.

In 1675 the state of Locke's health rendered it necessary for him to seek a warmer climate, and he went to France, where he spent the next four years (1675-9). He now turned again to the more congenial domain of abstract thought and to education. His patron and friend "Achitophel" wrote to him at the beginning of 1677 from the only place he could then date from, "the Tower," to request him to take a new pupil. "Sir John Banks, my intimate good friend, is sending his son into France to travel about that country for four or five months. He hath already learnt the French tongue, but is very willing to let him see the manners of those people. Sir John intends to send him over to Paris about a fortnight hence in the custody of Sir Richard Dutton who is going thither, and there is very desirous, if you will undertake that charge, to have him recommended to your care. In order thereunto he begs the kindness of you to come and meet him at Paris, where Sir R. D. is to deliver him up to your care. As for the charges of your travels, Sir John is to defray them, and will otherwise, as he saith, give you such a reward as becometh a gentleman." Locke went to Paris from Montpellier accordingly, and took charge of this pupil. The tutorship lasted for nearly two years, but we have no particulars about it.

In 1679 Locke, after a tour about France with his pupil, was called back to England to join Shaftesbury, no longer in the Tower, but, by a turn of the wheel again placed in office as Lord President of the Council. Locke obeyed the summons and started again in the whirlpool of politics. After three years of plots and counterplots the new Lord President's head was saved by the "*Ignoramus*" of the Grand Jury, and he escaped to Holland, where he died very soon afterwards. Locke had probably no knowledge of the plot in favor of Monmouth; but his connection with Shaftesbury was so close, and the Court party were such good haters and so little under the restraints of law, that another residence abroad became prudent, and Locke escaping to Holland was an exile there from 1683 till he returned with Queen Mary in 1689.

Up to the time of Shaftesbury's fall Locke had had his Lordship's private affairs as well as public affairs to think of; and among these, one which greatly interested the old lord was the education of his grandson. When the child was but three years old "Achitophel" induced the father to give him up entirely, and from that time till the flight and death of the grandfather the child was brought up under Locke's directions. Locke engaged as a governess a Mistress Elizabeth Birch, the daughter of a schoolmaster of that name, a lady possessing the unusual accomplishment of speaking Latin and Greek. No doubt the child was to learn these languages—Latin at least—colloquially; and as Locke nearly twenty years later declares this to be the best method, perhaps it was tried with some success as in the case of Montaigne. When Locke returned from France the child was nearly nine. For three years he was entirely under Locke's control. A house was taken at Clapham and there Mistress Birch was established with the child, and Locke paid them frequent visits. "Mr. Anthony," better known as the third Earl of Shaftesbury and the author of the *Characteristics*, thus writes of his own early years: "In our education Mr. Locke governed according to his own principles, since published by him, and with such success that we all of us came to full years with strong and healthy constitutions—my own the worst, tho never faulty till of late. I was his more peculiar charge, being as eldest son taken by my grandfather and bred under his immediate care, Mr. Locke having the absolute direction of my education, and to whom, next my immediate parents, as I must own the greatest obligation, so I have ever preserved the highest gratitude and duty."

We have now come to the most troubled period of Locke's life. At the age of fifty and in wretched health he had six years of exile before him, not in France, where the climate would have suited him, but for safety's sake, in Holland, where the government would not be so ready to give him up, or at all events to find him if, as it actually turned out, the English government should demand him among the proscribed.

Among Locke's new acquaintances was a Genevese named Le Clerc, who induced him to write for a magazine known as the *Bibliothèque Universelle*. Thus at the age of fifty-four Locke began to give his thoughts to the world. Mr. Fox Bourne thus describes the change: "Hitherto we have found that he was pre-eminently a student. Henceforth we shall find him a humble, painstaking student still, but pre-eminently an author; so zealous an author that the remaining eighteen years of his life did not give him time enough to pour out for the world's instruction all the old thoughts that he had been accumulating, and all the new thoughts that took shape in a mind which retained the vigor of its youth long after the body had grown old." The great work which has made Locke famous, the *Essay on the Human Understanding*, had been growing for some years. It was published in 1690.

Another work much less elaborate indeed, but, as it proved, of no small importance, was in progress during these years of exile, tho even the author hardly knew that he was writing it. One of Locke's friends in England, Mr. Edward Clarke, of Chipley, near Taunton, was anxious for advice about the bringing up of his son; and as this problem had been much in Locke's thoughts, the philosopher wrote from Holland a series of letters on the subject, which four years after his return to England, he was induced to publish as *Thoughts Concerning Education.* No doubt the letters were more elaborate than they would have been but for a notion in the writer's mind that they might some day be used as material for a treatise; but they were written (to use Locke's own words on a similar occasion) in "the style which is such as a man writes carelessly to his friends, when he seeks truth, not ornament, and studies only to be in the right and to be understood." As he afterwards found no time to work up these letters into a regular dissertation, he was content to publish them as *Thoughts.* The work was a favorite one with him; and he kept adding to it as long as he lived. But as a literary work it suffered much from being composed in this irregular and patchwork fashion. The sentences are often very carelessly constructed; and short as the book is, it contains a good deal of tiresome repetition. But when a mind like Locke's applies itself to an important subject, all men are interested in the result; and the *Thoughts Concerning Education* was for two centuries the solitary English classic in pedagogy.

We saw that Locke during his residence in Holland had put his main ideas on this subject into a series of letters to Mr. Edward Clarke. After his return to England his interest in education was revived by a fresh opportunity for experiment. In the family which offered him a home were Lady Masham's step-daughter Esther, a girl of sixteen, and her own son Frank, a child between four and five. Frank Masham was henceforth brought up according to Locke's hardening system, with, as we are assured, the best results. Locke was no mere theorizer of the study and library, he delighted in bringing his new notions in contact with experience. Even when an exile in Holland he took so much interest in the little son of a Quaker merchant of Rotterdam that in after years the young man, by name Arent Furly, is spoken of by the third Lord Shaftesbury as "a kind of foster-child to Mr. Locke."

In spite of his wretched health Locke reached the age of seventy-two. On the 27th October, 1704, he felt that he could not live much longer. "My work here is almost at an end," he said to Lady Masham, "and I thank God for it. I may perhaps die to-night; but I cannot live above three or four days. Remember me in your evening prayers." He was right. The end, a very peaceful one, came the following day. R. H. QUICK.

Cambridge, England.

A portrait of John Locke, a sketch of whose life is given above.

SCHOOL ADMINISTRATION.

The School Superintendent. II.

EVEN in the present rudimentary stage of the school superintendent he is much more than a statutory officer and if there is no change in the trend of the development, he will come to be in his community a social factor of the first importance.

The people of a municipality elect a comptroller, and every citizen knows, or can know, just what the comptroller's business is and how closely he fulfils his various functions, because they are clear and definite and very little affected by his personality. He may be agreeable, or disagreeable; he may be personally influential, or personally insignificant, but if he is a good bookkeeper and honest, and reasonably intelligent, he may be a good comptroller, and no duties calling for the possession of higher qualifications rest upon him. That is true of most public functionaries. The question of personality is merely a question which affects their own relations with other people and their own welfare. It is not an important element, except politically, in the performance of their various public duties. This is not quite so true of the mayor of a city as it is of the comptroller, but even in his case personality is of minor importance. In members of boards, such as common council, board of estimate and apportionment, and school board, it is of very little consequence what the men are personally, if they can perform honestly, intelligently, and efficiently the prescribed duties.

With the school superintendent quite the contrary is true. His statutory duties are in many respects the least important of those that rest upon him. Many a school superintendent is honest and reasonably intelligent and able to perform the duties required of him by statute efficiently, and yet is a complete failure as a school superintendent.

The good school superintendent of necessity enters into somewhat close personal relations with many people—with the board of education; with the body of teachers; with some of the children, and with large numbers of the parents. That is, he should enter into such relations. If he does not, he in that degree falls short of the possibilities and proper obligations of his office. And these relations are of the utmost importance. The manner in which he establishes and maintains them and the character he gives them will determine almost wholly his success as a school superintendent, at least in the higher sense. A superintendent may be able to formulate valuable reports for the edification of the public; he may be able to make good recommendations, and force them thru the board of education; he may be able to formulate a good course of study, and excellent rules for the governing of teachers, but unless he can establish the right personal relations with these bodies he will be surprised to find of how little effect the performing of the various functions mentioned is.

I emphasize this point to such an extent, because it is too commonly overlooked. Especially in discussions of the school superintendent, we are disposed to place undue emphasis upon the right law, and the proper statutory conditions. Not that I regard these latter as unimportant; indeed, in my last article I place stress upon them. But they are mere conditions. The school superintendent's success depends upon other foundations. His functions are vastly higher than can be indicated by any statutes, and his usefulness is determined by the exercise of traits and powers that cannot be indicated in any law or code of regulations. Possibly it is this fact which has led some very astute observers, for example Dr. J. M. Rice, the Editor of *The Forum*, to the belief that the right political conditions for the government of schools are of comparatively little consequence—because some school superintendents have succeeded in making good schools under the worst political conditions, and the very best political conditions do not necessarily bring good schools. In the large city and in the small alike the excellence of the schools will depend chiefly upon the success of the school superintendent in obeying the unwritten law, and in meeting those conditions which are personal and which cannot be set down in any ordinance.

It is difficult to state which of the classes of relations mentioned is of the greatest importance, so without attempting to decide this question we will consider first the relations, personal and otherwise, of the school superintendent with the school board.

In most cities the superintendent receives his appointment from the school board. This of itself makes it necessary, if he desires to retain his place and secure re-election at the expiration of his term, for him to maintain harmonions relations with the board, but this is the least worthy motive for maintaining such relations.

Theoretically, the superintendent is the employee, and, in many matters, the executive of the board; and as I pointed out in a previous article, the power conferred upon him varies greatly. But whatever the degree of responsibility given the superintendent, in general the character of his relation to the board is reasonably uniform.

In a few large cities in which the superintendent has great statutory power he can succeed in accomplishing much by a vigorous exercise of his power, even if his relations with the board are inharmonious, or even positively antagonistic, but he cannot accomplish as much under these circumstances as he can if the relations are harmonious, even in those cases in which he has the very greatest statutory authority.

It must be borne in mind that the results which the superintendent seeks to produce in his work are spiritual results. It is one thing to have regulations inaugurated, courses of study adopted and printed, and even formally put into execution. It is quite another thing to secure the spiritual result in the schools, which only is education.

A school board, whether large or small, whether wise or unwise, whether honest or corrupt, is a body of citizens representing with more or less accuracy the whole body. Its members are of necessity people of consequence and influence among some classes of the community, otherwise they never could have secured the positions accorded them. If they are personally, as well as officially, in harmony with the school superintendent and believe heartily in the various things that he is doing, or trying to do, in the schools, the support which they can give extra-officially is very great, greater than most superintendents are willing to admit, and particularly in those cities in which the statutory powers of the superintendent are limited and the school board is the legal seat of all, or nearly all, authority (and such cities are so largely in the majority in this country as to constitute very near unanimity) the harmonious relations of the superintendent and board are absolutely essential to the carrying out even of the smallest wishes of the superintendent.

I do not know of an instance of a superintendent getting done in the schools the work that he wants done while his relations with the school board are for a considerable time inharmonious. Of course it happens to nearly all superintendents to be occasionally and for brief periods at outs with his board, but unless he can ultimately bring them to his way of thinking and make them his supporters, he can accomplish little.

Now how is a superintendent to maintain harmonious relations with a board, composed partly of cranks, partly of dishonest men, partly of self-seeking politicians, to say nothing of the good, well-intentioned obstinate ones?

The question cannot be answered in a sentence. There is no specific for the case, but it is safe to say that it is not necessary to sacrifice principle in order to secure such harmony. It is necessary sometimes to wait. A superintendent should be patient, and if a good thing that he has in mind cannot be secured at once, he should not lose his temper or denounce the board of education or the unthinking public. His business is to educate, not merely the children, but the whole public. Indeed, that is his greatest, highest, and noblest function. If his point of view is reasonably sound, and if he is wise and patient, he can almost always bring at least the board of education to support him.

The trouble with many superintendents is that, like many other good people who desire to see good things done in the world, they are pugnacious and narrow, and unable to take any other point of view than the one which comes to them most easily. Many a good man loses his chance to do good by standing up and declaring too loudly that he is good and implying that other people are bad.

The superintendent who desires to exert influence in the community does not need to be a compromiser, but he does need to bear in mind that no one is wholly bad; that most of the people with whom he has to deal are reasonably self-respecting and honest people who have possibly as good motives as he has, and if they have not they at least have some good motives and are capable of being appealed to in the right way.

If the members of the board are ignorant, as a rule they are highly complimented if they are taken into the confidence of the superintendent and are put into a position to support a new, broad, and highly intellectual policy.

The superintendent who desires to work harmoniously with his board, and carry his board with him, must take the time and pains to talk personally and privately with the members of his board; with the leaders, of course, but with others as well. Many a good project fails because the superintendent has thrown it at his board in a formal report in terms which often the members of the board do not understand and has startled them into opposition; whereas, if he had quietly sat down with a few of the influential men, and sometimes with those not so influential, and explained his project and made them think that they would be responsible for doing a good thing if they supported it, he could have secured his end. I am speaking now from a somewhat bitter experience. As I think of my years as a school superintendent, I can see many a good project which I could have carried to a successful issue, but did not because I had not taken the pains to persuade the members of the board personally that my plans were wise.

The superintendent should treat the members of the board of education as men worthy of respect at least for the position they hold, and should not make them feel too decidedly his own superiority. Yet a superintendent makes a grave mistake who lowers himself, especially morally, in order to be in touch with the influential members of his board. The comparatively ignorant and commonplace citizen, who is the most common school board member, likes to look up to his superintendent. He likes to feel that he is on good terms with him, but at the same time, it is a matter of pride for him to be able to say " Our superintendent is a superior man," and the superintendent who lowers himself in moral or intellectual tone, for the sake of keeping in sympathy with his board, is going to the other extreme and is likely to lose more than he will gain. That is, the board want to feel that the superintendent is a superior man, but they do not want to feel that he feels himself a superior. It is a higher compliment for him to seek to treat them as upon his level than for him to lower himself to their level. This is a maxim which might well be followed by many men who are not school superintendents and who desire to help others.

In case members of the board desire the superintendent to make a nomination or recommendation which he cannot conscientiously make, he does not need to assume that their motives are wrong, and that they are dishonest people, trying to lead him into iniquity. He does not need to rise in his might and square off for battle. It is entirely possible in most cases to decline to make an improper recommendation or nomination without antagonizing the one who asks it. This should be done by appealing to the higher nature of the member of the board and putting the responsibility and the onus upon him. Politicians, as a rule, respect men who have convictions and who are ready to stand for them, and yielding to an improper suggestion does not win friends, even when it is done for that purpose. But as I have said, in refusing to yield it is not necessary to knock down the people who have made the suggestions. So much for the personal relations of the superintendent with his board.

Officially, he should never lose his grip. He should never let the board feel that he is not to be reckoned with in regard to any proposition affecting the education of the children, and, yet, he should let the board feel that they are people of consequence, and that they are interested in the cause of education as he is and are doing something for it. A tactful superintendent will frequently make a suggestion to a member of the board in such a way that he himself will propose the very reform that the superintendent wanted. Superintendents often err in their desire to have it evident that all the reforms and all the good movements spring from them. It is vastly better to have them apparently spring from the board itself. It is often much better for the superintendent to sweetly fall in with a suggestion of a member of the board and say nothing about the fact that the suggestion was his originally.

The superintendent should treat with respect every suggestion from members of the board, and if he cannot agree with them, he should be at infinite pains to make his reasons plain, and to convince the member that his suggestion is not feasible, and frequently it is best to yield in minor matters, even if the measures proposed are contrary to his judgment, in order to hold control in major matters.

That superintendent has done well in managing his board to whom the members will come for advice and suggestion before bringing a project to the attention of the board. That is the ideal relation—that of friend and counsellor, as well as executive of the board. The school board should feel that it, as an official body, is responsible to the people, and the superintendent should do all in his power to make them feel that, rather than to seek to have them feel that they are responsible for nothing and that he is responsible for everything.

From this it follows that almost the first duty of every superintendent is to educate his board. He should begin this and persist systematically. The persistence is particularly important, inasmuch as the membership of school boards is constantly changing, and the superintendent who has a well educated board to-day, may find himself with an awkward team to-morrow, and sometimes with a vicious one. He should educate the board first of all, to faith in himself. It is this faith in his personality on the part of the board which will make it possible for him to accomplish his ends with the least friction and with the greatest certainty.

This means that he should always be thoroly honest with his board. No matter how corrupt a board may be, a superintendent cannot afford to be dishonest with them. He must be tactful and diplomatic, but not crooked. They must come to feel after acquaintance with him that he is wholly sincere in all the measures he brings forward; that he has only the good of the schools at heart, and that when he makes a recommendation they need not look for any ulterior motive. That is the first step.

The second is to convince them that the recommendations are in the main wise, backed by sound educational doctrine, and likely to result in good. If the superintendent can keep his board in such an attitude, he has before him a clear field, but he should not rest contented with this. He should seek to make his board intelligent, at least as to the superficial aspects of educational doctrine. He should continually inform them of what he is about to do and why he is doing it; they will like it, and he will find that his strongest support comes from the members of the board that he has thus instructed.

These points of advice may seem very simple and obvious and unnecessary, but they are not. More superintendents fail because they have not taken the board into their confidence and not inspired the confidence of the board than from almost any other reason. This is quite true of the stronger and abler superintendents who do not get along well with their boards. Certain most unfortunate changes in superintendencies that have occurred during the past year may be traced to a lack of tact on the part of the superintendent in educating the board into a condition of confidence in him, and many of our weaker superintendents, those who have not the confidence of intelligent teachers and of their confreres, are strong in their positions because they have trained their boards to support them.

Another suggestion with regard to the official relations of the superintendent towards his board is this: He should not present to his board new measures or schemes until he has them very clearly worked out in his own mind, except that it is sometimes well to suggest in confidence to an intelligent board member a possibility or an ideal dream of something to be done at some time, but when a superintendent goes before his board with a statement of what he wants he should know to the utmost detail what that want is, and he should be able to defend his proposition accurately and minutely against opposition from the board or from other sources. Loose recommendations soon forfeit the superintendent's position of strength. This is equally true whether they relate to financial matters, to the course of study, or to the appointment of teachers.

While the personality of the superintendent is a matter of such consequence, do not let me be understood as advocating resting political and statutory matters upon this personality. If there are no statutes controlling the appointment of teachers, for instance, a wise superintendent will secure from the board of education formal regulations upon these matters at the earliest possible moment. He needs this for his own protection. It is always a great source of strength for the superintendent to be able to say to his board when they want something done which is not just right, "if you do that you will violate your own rules." While the superintendent should formulate the rules, he should have the board adopt them as their own. I have known a school system practically revolutionized by a tactful superintendent, who simply secured the adoption of stringent regulations which appeared well and appealed to the board when first presented, but which they afterward were disposed to resent because they interfered with their assumed prerogative of recommending and appointing teachers. But the superintendent was able to hold them down because they could not consistently go back upon their own record in making the rules.

We have dealt thus far in a very practical way with some of the most common and most annoying, but most important troubles and duties of the school superintendent. Inasmuch as the article has been extended to so great length, I will defer until the next number the discussion of the relation of the superintendent to his teachers and to the community at large.

New York. C. B. Gilbert.

There is a tendency in the minds of many, when a new subject is presented to them, to run away with a part of a proposition, or with an individual illustration, and to condemn the principle to which it applies as unsound, because they happen to know facts which are at variance with the particular example brought forward. In this way there is perhaps no rule to which some individual case may not be plausibly opposed. But it does not necessarily follow that the principle or rule is thereby disproved. An example may be badly chosen, and yet the truth it is meant to convey may be as much a truth as before. Instead, therefore, of at once condemning a proposition on account of a single apparent exception, it will be better to extend the inquiry, and discover whether any peculiarity of situation or constitution has interfered to modify the result, and to condemn only when evidence of inaccuracy is obtained. Thus because some drunkards have enjoyed good health, and lived to an unusually old age, we are by no means entitled to infer that drinking was the cause of the good health, and that if we would all drink as freely, we should live as long. An example of this kind, far from disproving the principle that ardent spirits are injurious, only establishes the fact that individuals exist who, from some idiosyncrasy are better able than others to resist their bad effects. The general principle remains unaffected. Andrew Combe.

Responsibility in School Supervision.

WHEN we take into consideration the short time the common school system has been established; when we consider that the vast problem of universal education at public expense is a new one; that the central authorities of state and the general government have very little to do with the common school system, except to pass enabling acts; that each school district or corporation is nearly a perfect autonomy in itself; that the common school system has been and is of purely democratic offspring and growth; that its establishment, progress, and support have been entirely dependent upon the development of intelligence among the people; when we consider, too, the tremendous obstacles of honest conservatism, and of corrupt politics, the demand for an immense number of teachers, and that training schools are entirely inadequate to furnish any considerable number of skilful teachers; that the whole nation has been devoted to material interests which have kept them from the higher spiritual interests: taking all these and other factors into consideration, it is safe to say that no institution of a like kind ever established by man, has made the marvelous progress of the common school system of the United States.

We are so close to this making of history that it is impossible for any one to appreciate adequately how much has been done for the education of the people in the last few years. Every step in the history of our common school system has, from the beginning, been marked by a steady onward and upward movement, a sure promise of still greater improvement. Compared then with the history of all like institutions in the world, and considering the centuries it has taken to develop them, compared with the results that can be seen and felt everywhere in our republic, our common school system can be pronounced an unrivaled success.

CITY SUPERVISION.

The idea of the supervision of city schools was originated long after the common school system was founded. Previous to 1837, the year that Horace Mann began his work in Massachusetts, there is no record of any city superintendents. In that year, 1837, Buffalo, N. Y., appointed a city superintendent. In 1839, Hon. Nathan Bishop was elected to the position of superintendent of Providence, R. I., and twelve years afterwards Mr. Bishop was made the first superintendent of the city of Boston, 1851. In 1841, John A. Shaw was chosen city superintendent of New Orleans. In 1844, Andrew Friese, who was secretary of the school board, was appointed acting manager of the schools at Cleveland. J. N. Mc-

Jilton was elected superintendent of Baltimore in 1849, and Nathan Guilford of Cincinnati in 1850. New York city organized in 1851, closely followed by San Francisco and Jersey City in 1852; Newark and Brooklyn in 1853, and Chicago and St. Louis in 1854. Some of these appointments were unsalaried, and the superintendents were little more than secretaries of school boards. Philadelphia had no superintendent until 1883.

At first a perversion of the democratic idea refused all supervision and demanded utter independence of individual action on the part of the teachers. Supervision came into existence thru a necessity for some one to do clerical work for school boards, to buy brooms, slates, and other appurtenances of a school. The idea has gradually developed into that of an expert educator, which may be called the latest phase of supervision. And from this point of view, I shall attempt to discuss the functions and duties of school supervisors and superintendents. The possibilities of better and more efficient supervision are limited only by the possibilities of improvement in teaching. The highest duty of a supervisor is *to make better teaching possible.*

THE TRUE METHOD OF SUPERVISION.

The most efficient plan of supervision ever yet tried in the schools of large cities is to make the principal of a district school responsible for the supervision of his entire district.

He should have entirely in his hands the matter of compulsory education. Compulsory education means that parents who, thru poverty, or ignorance, or vice, neglect to send their children to any school, thus depriving the state of an intelligent support, should be compelled to do so. It means also that when habitual truants get beyond the control of their parents or guardians, the law should bring and keep them in school. The principal of a district school should have a complete list of all the children in his district and their residences. If children attend private schools, there the matter should end; his business is to discover those children who do not attend any school, and he should have the means, and all the means to bring them in, and keep them in, school. The attendance officer should be under his immediate control; his whole corps of teachers, and indeed the whole school, should be made the means of salvation of every child in the district.

RESPONSIBILITY.

The supervisor or principal of a school should be responsible for his school. Business without responsibility is a failure; education without responsibility is impossible; progress without responsibility is a myth. Responsibility for a school is meaningless unless the principal has the authority to select his own teachers from an approved list furnished by the superintendent. This fact is as plain as a pike-staff. It cannot be gainsaid. One incompetent teacher in the line of eight years' work, damages irretrievably the whole course of instruction and development. If the teacher fails in his work, the supervisor's recommendation should be sufficient to relegate that teacher to some more congenial work outside the profession of teaching.

SHOULD UNDERSTAND EDUCATION.

Next to the choice of teachers, the supervisor should be *par excellence* a teacher of teachers. It goes without saying that the holding of teachers' meetings should be the main factor in the progress of a school. They should be held continually under the direction of the principal, and every teacher in the corps should contribute, by discussion and suggestion, all he can bring to the assistance of the whole corps. One effective conference of teachers is worth many hours' work in the school. The principal of a school should be an earnest, persistent student of the laws of human growth and the best means and methods of developing the human being, and he should bring all this power and skill to bear upon the education of his teachers. He should use every effort to bring about a strong, vigorous co-operation of his entire corps, so that the work of the whole school, from the lowest primary grade to the high school, may form one organic whole.

INSPECT AND EXAMINE.

The principal of a school should be a keen and truthful critic of teachers and teaching. The two means by which he may estimate the value of teachers and teaching are inspection and examination. By inspection is meant the close observation of the teacher at work, and the pupils working under the immediate directions of the teacher. The ever present question should be: Are these pupils doing that work in the most economical manner which is immediately needed by them for their growth and development? The examination, however, is a means of looking upon an aspect of teaching that inspection will not reach.

Examinations should demand that work, and only that work, which is of genuine value to the pupils examined. An examination which calls for non-essentials in education is in a high degree injurious. An examination, to be of use, must be a demand for real teaching, that teaching which develops the children. An examination should test what pupils can really do in thinking and expressing thought. It should comprehend all the genuine work pupils have done and are doing. An examination should suggest to the teacher any marked weakness of his pupils in the work that should have been done. Both in inspections and examinations, all the circumstances of the pupils should be thoroly understood and carefully considered: for instance, the teaching in the grades below, the home influences and surroundings of pupils, the infirmities of heredity, and all the obstacles which prevent pupils from coming up to grade. It is plain that a teacher should not be charged with the sins, faults, poverty, and ignorance of parents, nor deformities resulting from mental and moral inheritance. The *en bloc* plan of examination perpetuates the doctrine of the "survival of the fittest" with a vengeance. It is directly contrary to the human doctrine which would fit every one to survive.

THUS TEST THE TEACHER.

The sole motive of inspections and examinations should be to aid the examiners in estimating the skill, ability, and attainments of the teacher, and never for the promotion of the pupils. A teacher who has pupils under his care for a year or more, is the only person capable of judging when his pupils should work in next grade. A teacher incapable of knowing this important fact, is also incapable of teaching, and no examination can possibly make him a good teacher or repair the injury he has done. Thus expert examinations and inspections can be made of inestimable value to a teacher and to a school, while inexpert, ignorant examinations, authoritatively made, can be the cause of the greatest injury.

The second important duty of a supervisor is that of criticism. When a principal discovers a fault or a weakness of a teacher, he should frankly inform the teacher and give his reasons therefor. No principal should ever criticise a teacher to any one except the teacher himself, until he is sure that his criticisms are without effect. The principal who waits until the end of the year and then recommends the dropping of a teacher, without first giving him all the criticism necessary, and all the help possible, is guilty of a grave error. A supervisor can indeed do very much for the education of the teachers under his charge, but there are many "school-keepers" whom no power on earth can effectually help. An untrained, comparatively indifferent, and ignorant teacher is beyond the reach of the most efficient supervision.

GIVE MODEL LESSONS.

A principal should be thoroly capable of giving model lessons in every grade in his school and upon every subject taught. Such lessons should practically illustrate the application of the principles of education.

To recapitulate: (1) A principal of a school should have the responsibility of his whole district; (2) he should be given the authority to choose his own corps of teachers from an approved list furnished by the superintendent; (3) his recommendation should be sufficient to dismiss any one of them; (4) he should be a first-class teacher of teachers; (5) he should be an expert in inspection and examination; (6) he should have the ability to teach every child in the school.

A GREAT OFFICE.

The office of a superintendent of any large city like New York, Chicago, or Philadelphia, if we measure it by the executive ability necessary to develop an effective and progressive school system, is the most important position in the gift of the people. No other office requires so much knowledge, wisdom, tact, and patience. The duties of most other offices consist in the manipulation of machinery; in conducting details of business in the most economical or political manner, but the duties of the superintendent of a large city cannot be measured by the managing of machinery or the manipulation of details; he deals with the spiritual influences, with the possibilities of growth.

The development of the common school system into an adequate means of perpetuating this republic by educating loyal, honest, thoughtful citizens is the one aim that towers above all other questions of society or state. The most difficult problem in our school system is that of expert superintendence of large cities. Ignorance, poverty, and vice, enhanced by immense accretions of population, increase the difficulties enormously. Small districts have decidedly the advantage over large cities in developing facilities for the education of the masses. Two great obstructions to progress are the vast incoming of ignorance, poverty, and vice on the one hand, which is controlled by corrupt politics, and the profound indifference of educated people, absorbed in the pursuit of material prosperity, which renders them deaf and dead to the intrinsic interests of society.

NOT SEEK UNIFORMITY.

No common school system of any city of the first class like Chicago and New York, has yet passed, in its evolution, much beyond the absolutely necessary period of material organization. I have said that the basis of material organization is an absolute necessity as an indispensable foundation for the spiritual superstructure, but material organization brings with it as a sort of staging some necessary evils; evils that are very difficult to eradicate. The greatest evil is the apparent necessity for a rigid uniformity; uniformity in courses of study, in methods, and in examinations. In all inceptive steps uniformity is a necessity, no doubt, but a fixed and permanent uniformity means little or no progress in the art of teaching. Such uniformity has the effect of putting all teachers upon a dead level; commands, " Keep in the ranks, keep step, wheel and march in line." If you get out of step, if you move into the line of skirmishers, you are doomed. The law of uniformity makes the whole body of teachers an effective guard against any advance. Freedom and uniformity are incompatible. A young teacher enters the ranks of uniformity, his enthusiasm and zeal in the study of his art carry him over the dead line, and he is shot without judge or jury. Uniformity may be a necessity in the evolution of a school system, or any other system, but there comes a time when this rough staging should be torn away. The next period of evolution must be a period of liberty, that liberty so restricted that it will lead to freedom.

IT RE-ACTS ON THE TEACHER.

The striking proof of the deadening work of fixed uniformity is found in the great lack of efficient teachers to fill important positions. But the disciple of uniformity is struck by fear at the thought of breaking this crystallized ideal and becoming shipwrecked upon the unknown sea of liberty. The United States of America has cast its ideals all in one die, and that is the idea of democratic growth. The genius of this republic is freedom, and the germs of freedom are to be nurtured in the common school. A free people cannot be developed by teaching sunk into uniformity; freedom demands free teachers. " That is all well enough if we had competent teachers, but uniformity is an absolute necessity for the suppression of indifferent teaching," it will be argued. "As we have not the required number of skilful teachers, therefore, we must take refuge in uniformity." This argument is well known, even if it is more often thought than uttered. Legislation, rules, regulations, supervision, have been made for the greater part upon a too well founded supposition that teachers are not equal to trust and responsibility. The effect has been to make mediocrity the rule, and excellence the exception.

THE COMPETENT TEACHER.

It is difficult to describe the qualifications that constitute a competent teacher. Most of us imagine that we know a good teacher when we see him at work; still to analyze the character of such a teacher is no easy task. We shall all agree upon one fact, however, that generally the greatest weakness in teaching power is found in the lack of education. The supreme test of education is found in the attitude of the mind towards truth; it is found in a poverty of spirit, in hungering and thirsting after righteousness, in a divine discontent with present abilities and existing circumstances. Possibilities of knowing and being are the true measures of a soul.

Erudition and education are not identical; erudition is cyclopedic, education is power. But liberal education, in its broadest and deepest sense, will not make a teacher; out of education the special knowledge and the special skill of vocation, in a word, professional knowledge and professional power, mark the most necessary qualifications of a teacher. A good teacher, in whatever stage of goodness, is one who is ever learning, ever struggling for something better and higher than present attainments.

THE SELECTION OF TEACHERS.

This part of the discussion leads to only one conclusion: The supreme duty of a school superintendent is, first, to select the best possible candidates for the positions of teachers; and, second, to furnish every means to educate teachers in their positions. A systematic examination of candidates for teachers is a very recent mode of selecting teachers. It grew out of supervision. The general plan of a few years ago was to leave the selection of teachers almost entirely in the hands of sub-committees of districts. These sub-committees determined, in a very imperfect manner, the qualifications of teachers. In a few intelligent communities, where the principal succeeded, by good management, in gaining sufficient influence, he had much to do in the recommendation of teachers. But in the great majority of cases there were no reliable examinations. The result of this plan is known to all; the competent teacher was the exception, the incompetent the rule, and too often the position of school teacher was looked upon as a perquisite of political office.

SCHOOL WORK A FACTOR.

The next step in the evolution of examinations was to test candidates in regard to their literary or academic learning. This step was an absolute necessity to prevent the incoming of illiterate teachers. Some one has said of this examination: "It is a sieve thru which incompetent candidates are sifted down and out." At best it was an obstruction to the entrance of poor teachers. Those candidates who had a fresh burden of verbal memorizing were generally the most successful. The next step in advance was to examine candidates upon the pedagogical side in order to ascertain how much of the science of education they had studied. There is a universal agreement that the name of an incompetent teacher should never be put upon the list of available candidates, yet it is just as true that no method of examinations has ever been devised in this country, which carries out the rule of plain common sense. By written examinations, however severe and all-sided, the genuine merits of a teacher cannot be fully weighed and appreciated. The most effectual mode of certificating candidates is yet to be found.

Some day the most prominent factor of an examination will be the teachers' actual work in the school-room. An expert examiner can ascertain more of a teacher's education, culture, professional knowledge and teaching skill, by spending a few hours in his school-room than by any and all other means taken together. Some day every teacher will be made to feel by some common-sense mode of examination, that true merit always wins, and mere word learning must meet a sure and certain defeat.

RECOGNIZE MERIT.

The next highest duty of a superintendent is to know and practically recognize true merit in his corps of teachers and assistants from the highest to the lowest. The depression caused by a demand for uniformity has already been noted. Enthusiasm, zeal, persistent study would be the result of a universal and substantial recognition of good teaching and executive ability. No teacher can do his best by any other method than the method he believes to be right. Therefore in order to recognize merit, no superintendent or supervisor should ever dictate the use of a method to a trusted teacher. The recognition of merit implies the detection of faults and weaknesses, hence the necessity of careful and courageous criticism. A superintendent should never make a criticism directly to a member of a corps of teachers until he has first made it to the principal; then by the advice and counsel of the principal, it may be made to the teacher himself. This is a plain application of the rule of responsibility; orders and criticisms should be invariably given to responsible heads of departments; a criticism of a teacher whom a principal has selected is, in a certain sense, a criticim of the principal. Then, too, a teacher should have one main authority for direction, advice, and counsel. It is a sign of weakness in a superintendent to infringe upon the duties of other officers. Everything should be done to strengthen the authority of a principal and nothing to weaken it.

It is plainly impossible for the superintendent of a large city to personally examine all the merits of the schools and judge their principals with equal justice. It is a very simple mathematical problem of three thousand teachers and one thousand hours, or one hundred schools and one thousand hours. Hence the importance of an immediate staff of able assistants of a superintendent who shall directly assist him in these inspections and examinations. If the principals are made responsible for their schools, then the superintendent with his corps of assistants would have no other purpose in the inspection and examination of schools but to determine the abilities of the principals, and at the same time to assist them in their duties in every possible way. The superintendent should bind his corps of teachers in one organization for mutual aid and assistance. The most effective means for this purpose is the teachers' meetings.

THE TEACHERS' MEETINGS.

Teachers' meetings should be so managed as to bring out the best that there is in each teacher, and the franknest and freest expression of their thoughts and criticisms. A teacher who feels that his conclusions are not consonant with the superintendent's or supervisor's and therefore will not utter them, is cowardly. A superintendent who suppresses in any way the best thoughts and most honest beliefs of his teachers by his manner or dictum is a petty tyrant. There is a vast difference between loyalty to a superintendent and a system, and toadyism. The superintendent who allows toadyism degrades his teachers. While all teachers should be wholly loyal to a general policy of a superintendent, and should fully appreciate the difficulties in his way, they should speak the truth in their hearts. If they do not believe in a plan which he proposes, they should feel perfectly free to discuss and oppose it. It is the bringing out the best that is in each individual teacher that is the highest merit of a superintendent. Every one is fond of approbation, but one's best friends are his honest critics.

COURSES OF STUDY.

Making and arranging courses of study are among the most important duties of a school superintendent. To this work should be brought the immediate staff of the superintendent and his general counsel, the principals. A course of study is an arrangement of topics and subjects in the line of development. It shows the teachers the direction of work, and is a general guide in the preparation of lessons. A course of study should be adapted to the abilities of teachers. An iron-clad course of study that demands compliances in every detail is a dire means of compelling uniformity. The differing circumstances of pupils demand flexibility in the adaptation of a course of study. A class badly taught thru several grades cannot be made to follow a course of study without disastrous results. A course of study should be under constant discussion and should be changed when necessary. It should aid teachers in doing their best work.

DISMISSING THE INCOMPETENT.

No duty of a superintendent requires more courage than the dismissal of teachers. An unappreciated teacher never appreciates a dismissal. But the question is a very plain one. Shall hundreds of children or one individual suffer? That is the question. A law higher than that of man answers this question: "And whoso shall offend one of these little ones." One should have a profound sympathy for teachers who fail, but their sympathies should be more profound for the little ones who suffer under poor teaching.

The ideal superintendent is one who arouses in the heart of every one under his guidance a deep and abiding sense of the great dignity of the holy office of teacher. Thru liberty he leads his teachers up to freedom. He incites earnest, persistent study on the part of every member of his corps; he rewards true merit; spends the money of the people in the most economical way for the benefit of the children and the future citizens. Loyalty to a superintendent is the duty of every teacher; loyalty without fawning, cringing, or flattery; loyalty that makes unity of purpose an irresistible power.

OBSTRUCTIONS.

It goes without saying that I have here presented an ideal which is yet very far from realization. This doctrine of responsibility has indeed been tried in a few small districts and in some smaller cities, but in no very large city of the United States has a superintendent the necessary authority to superintend completely the school system under his charge. No one can doubt that, as in all kinds of business in which supervision is a necessity, some day this doctrine of common sense will be applied to all school systems. The road, however, to such a desirable end is filled with immense obstructions. These obstructions are generally coincident with the difficulties of realizing an honest, business-like municipal government. However simple the theory of responsibility may be, the practice is generally considered by school officers as impracticable under the circumstances. Circumstances too often mean personal or political influences. But notwithstanding the fact that the way is hemmed in by great political difficulties, the main difficulty lies with the teachers themselves. If all teachers stood upon the common platform of "responsibility in office" as the one means to expend the people's money for the highest good of the children, if the teachers unitedly worked to this end, the way would soon be clear and open for a general recognition of the teacher's rights and the teacher's true dignity.

TEACHERS NOT UNITED.

The teachers fail in having a commanding influence because they are divided among themselves. Honest differences of opinion in methods are too apt to create incessant quarrels that degrade teachers and lessen their influence. No worse state of things could be conceived than the universal agreement on the part of all teachers in regard to methods. Multitudinous honest differences, the results of study and investigation, should lead to a closer unity in the application of principles. It is a very mean and low reason why teachers attack each other upon personal grounds, and degrade the dignity of the profession into personal strife, simply because they differ honestly in matters of method. A teacher who is seeking for the truth should be thankful for these differences, and should meet those with whom he differs in a frank, open spirit of honest and fair discussion. It indicates a very low plane of morality to take the differences of opinion as a reason for bitter, unrelenting, personal combats that end in bigotry and hate.

UNUSED POWER.

No body of men and women on earth would have the tremendous political and social influence that teachers could have if they stood united and unanimous upon the main principles of progress. It must be a very poor teacher, principal, or superintendent, who does not earnestly desire the complete responsibility of managing his own work in his own way; but all the experiments thus far in this direction have been rendered partially ineffective by the attacks and animosities among teachers themselves. We should make a great difference between the discussion of principles and merits of methods, and personal discussion. We should welcome every difference of opinion and every reason, and at the same time stand firmly united for the highest good of all children under our charge.

Personal bickerings indicate a very low stage of professional life. Just so far as teachers rise to their true dignity and to the worth of their holy office, by earnest, honest study and courageous application of the truth when found, will the people recognize the value of true teaching and the skilful teacher. Then will come the responsibility which means success and progress.

FRANCIS WAYLAND PARKER.

HISTORY OF GREEK ART.

Greek Art.—First Period. III.

Adapted by Francis C. Turner from Goepel's History of Art.

WE observed in the hall of the Propylæa that its roof was supported by six Ionic columns, while the porticos at either end were Doric. It has been suggested that this combination of style symbolized the union of Sparta and Athens against the Persians. We pass on thru the eastern portico and see before us the great bronze statue of Athene Promachos; beyond it is the Erechtheion, and to the right the Parthenon, the most perfect of Greek temples. Other temples and monuments which stood on the platform of the Acropolis have perished, Athene has long since ceased to keep guard over her city; but the temple of the sacred olive and the shrine of the virgin goddess still remain to bear witness to her former greatness.

The Parthenon has suffered much at the hands of barbarians and degenerate Greeks: Christian iconoclasm and Turkish indifference have defaced it; the victorious Venetians destroyed much by their unsuccessful spoliation. The Turks used it as a powder magazine, which exploded and destroyed nearly half of the building. Then the chief part of the sculpture which remained was carried off by Lord Elgin to England, and is now in the British Museum. This includes the statues of both pediments, about half of the frieze of the cella, and a number of the metopes.

The Parthenon is an octostyle Doric temple, having an amphiprostyle cella; the intercolumniations are small, so that the width of the pteroma is only 1½ diameter. The interior of the cella is divided into two parts, one more than twice as long as the other. The ceilings of both these were supported by double rows of columns. The larger chamber was the naos, and contained the famous chryselephantine statue of Athene, the masterpiece of Pheidias. A statuette discovered at Athens a few years ago has been generally accepted as an inferior imitation of the famous Athene Parthenos. The goddess stands erect with her head slightly bent forward, her left arm resting on her shield, and holding her spear which rested against her shoulder; her right hand outstretched supported a figure of Victory which turned toward the goddess and offered her a golden wreath. The goddess wore a sphinx-crested helmet and was clothed in the sleeveless chiton. Her shield, we are told, represented on the inside the Gigantomachia, and without, the Gorgon's head and the battle of the Amazons. A marble fragment in the

British Museum is no doubt an inferior copy of this shield, and upon it we may possibly recognize, in the figure of the bald-headed man with uplifted axe, the portrait of the artist himself, which afforded his enemies an opportunity of ruining him.

The temple, grand and majestic as it is, is not of extraordinary size. The dimensions of the stylobate are 228 feet long and 101 feet wide. The height of the top of the pediment is 66 feet; but the perfection of its proportions gives it a beauty and grandeur possessed by no other temple. Its architect, Ictinus, considering that he had surpassed all other work of the kind, wrote a special treatise on the Parthenon. Several modern architects, especially Penrose, have with great care and labor measured accurately every part of the building, and have discovered many of the secrets of its beauty.

The whole of the sculptured work is said to have been executed under the superintendence of Pheidias. First, there are the sculptures of the two pediments, the mutilated remains of which still retain their pre-eminence of beauty. The frieze of the entablature consists of metopes and triglyphs; the metopes sculptured in high relief represent the battles of the Centaurs, of the Amazons, and of the Giants. These metopes are for the most part destroyed, or so disfigured as to be unintelligible. The difficulty of filling ninety-two spaces, each about 4 feet square, with sculptured groups distinct but similar in character must have been immense. Around the cella, at the same height as the outer frieze, ran a zoophorus or continuous frieze in very low relief, which is the best preserved of the sculptured remains.

Centaur, Metope.

From ancient writers we learn that the subject of the eastern pediment was the birth of Athene from the brain of Zeus, and that of the western the contest of Athene and Poseidon for the land of Attica. In both the whole central portion is missing, and the chief authority for understanding the designs consists in drawings made at the beginning of the last century by an architect named Carrey. Already when he visited Athens the central group of the eastern pediment was missing. It appears, however, that the moment chosen by the artist was not the actual occurrence of the goddess springing fully armed from the head of Zeus, a scene which could not be free from the ludicrous, but the moment after, when she appears before the assembled gods on Olympus. The scene, Olympus, and the time of the occurrence, are marked by the rising chariot of Helios and the descending car of Selene, which form the limits of the composition. Only the heads of the horses and the upper body of the deity are visible in either case, as the former rises from the sea, and night disappears before the dawn. Of the four horses of Helios two were represented in relief on the back of the pediment, the other two sculptured in the round, the outer one projecting beyond the plane of the cornice. The fiery impatience with which the horses of Helios toss their heads upwards is in striking contrast to the downturned head and distended nostril of the horse of Selene. The latter especially is perfect in technical skill.

"This work," writes Goethe, "whether created by the imagination or seen by him in nature, seems the revelation of a prototype; it combines real truth with the highest poetical conception."

The three figures next to Helios have been preserved tho mutilated. Dionysus, resting in his tiger's skin, faces the upspringing horses of the sun; he is resting in an easy attitude on his left arm, the right arm is bent and probably held a spear. A recent critic has interpreted this figure as Mount Olympus illuminated by the first rays of the rising sun. Next come two female figures seated on square seats half concealed by their flowing drapery; they are slightly turned one from the other, but probably the head of the taller figure was turned to her companion, whose left arm rests affectionately on her shoulder. By their attitude they are obviously nearly related, and are identified as Demeter and Persephone. These three figures are finely contrasted in respect to the central action; Dionysus is lying in calm tranquillity unconscious of the great news, Persephone is only half aroused to attention, while Demeter appears just to have heard the news of the birth. On the other side, next to Selene, is a group of three female figures, Aphrodite lying in the lap of Peitho, in an attitude of dignified repose, and with averted gaze, as if the news of the great event had not yet reached her; Peitho leaning forward with her feet drawn under her as if on the point of springing up erect, and nearer to the center Hestia turning to receive the tidings. Iris and Hermes, as messengers of the gods, bear the news to these two groups. The figure of Nike (Victory) is the only other that remains. These figures for their truthful and perfect modeling of form and drapery, for their simple unaffected beauty, surpass all the works of human hands.

On the western pediments Athene and Poseidon in their chariots, driven by Nike and Amphitrite, are turning from the olive-tree in the center, the symbol of the victory of Athene, and the rescue from the salt waves of the land watered by Cephisus and Ilissus, whose figures bound the composition and indicate that the scene is the Acropolis itself.

Of the subordinate figures the remains are not sufficient for identification. The chariot group of Athene was destroyed by the Venetians, who attempted to remove it with insufficient appliances.

The noble frieze of the cella we can study with less difficulty. Its subject is a sacrificial procession, usually identified with the greater Panathenæa, the festival in honor of Athene Polias, the protector of the city. The procession is a double one, commencing from the southwestern corner and meeting in the middle of the eastern front. Along the western front are cavalry preparing to start, some already mounted and reining in their horses, others adjusting their harness, and marshals ordering the procession. Along the north side runs the procession of horsemen, the fiery irregular movements of the horses contrasting with the firm seats and steady attitudes of their riders. In front of the cavalry procession come the chariots, several groups of which are lost, and others mutilated.

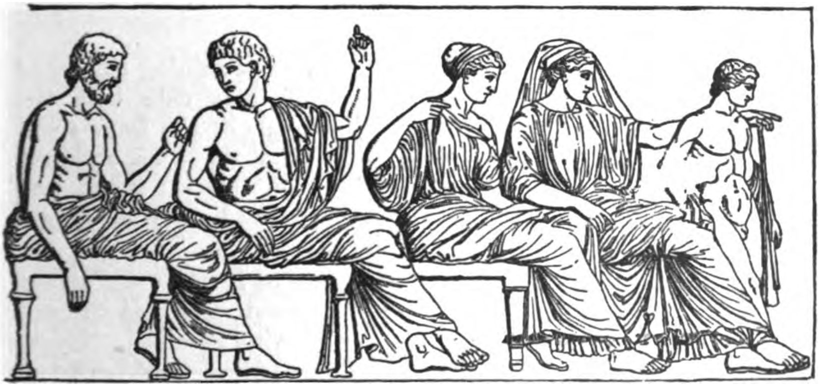
Parthenon Frieze of the Cella.

The animation of the chariot groups is in striking contrast with the quiet and leisurely walk of the old men—Thallophori, bearers of the olive branches—who precede them. In advance of these is a band of musicians, then men bearing trays of offerings, and next the victims for sacrifice.

On the eastern frieze a group of male figures receive the advancing processions. Between these groups are twelve seated figures of the gods on either side; in the centre is a group supposed to represent the offering of the peplos to Athene Polias. The whole is pervaded by a feeling of fulness of joy.

From this frieze more is to be learned of the true principles of art, of the union of natural truth and dignity, than from all the books that have ever been written. The Panathenaic explanation of the frieze presents certain difficulties—many things that we know were present in the procession are absent, the festival seems not to concern Athene alone as all the gods are present, and furthermore the peplos was not presented to Athene Parthenos, but to the ancient wooden statue of Athene Polias, whose home was elsewhere on the Acropolis.

A theory has lately been put forward, which if it can be maintained would add to the glorious history and associations of the Parthenon. The temple was built soon after the defeat of the Persians and the victory of Salamis, and must have been thought of by the Athenians as a monument commemorative of the rescue of Hellas from the barbarians. But it is recorded by Plutarch in his life of Pericles, that when Greece had in some degree recovered from the Persian wars, the Athenians on the proposal of Pericles sent ambassadors to the other Hellenic states, inviting them to send



Part of Eastern Frieze of Parthenon.

deputies to confer about the restoration of the temples which had been destroyed, to take part in a thanksgiving sacrifice, and to take measures for the preservation of the security of the sea, and of universal peace. These words appear to cover a great and statesmanlike scheme for uniting the whole of Hellas into one confederation, and putting an end to the fratricidal wars which had been so nearly fatal to Greek independence. These negotiations were taking place while the Parthenon was building, and it is pleasant to believe that Pericles wished to associate its inauguration not only with the triumph over the barbarians, but with the great results which he hoped to bring about thru the panhellenic enthusiasm which the struggle must have excited. Nothing then could be more natural than that he should record on the commemorative temple the festival which he hoped would mark its completion.

The double procession, and the two groups of gods, thus become natural. On the left comes the Doric procession, and the gods on the left can be identified as those chiefly worshiped in Doric lands —Zeus, Hera, Ares, Artemis, and the Dioscuri. On the right are seated the Attic divinities Athene and Hephæstion, Poseidon and Phœbus, Persephone and Demeter. Thus the temple gains in significance and moral grandeur, and the noble dream of Pericles is forever commemorated in the noblest temple the world has ever known.

THE ERECHTHEION.

From the Parthenon we turn to the other remaining temple of the Acropolis, the Erechtheion. It is of later date than the Parthenon, and a remarkably graceful example of the Ionic style. It is a striking proof, if proof were needed, that the Greek architect was free from anything like slavery to an established model, and could adapt his style to the conditions imposed on him by the nature of the site or the circumstances of the case.

The Erechtheion had several conditions to fulfil: it was sacred to Athene Polias, and had to cover the sacred olive and the salt spring, the living memorials of her contest with Poseidon. Hence it required three parts, the shrine of Athene Polias, the enclosure of the sacred olive, and the shrine of the nymph Pandrosos, which contained the salt spring. The irregularity of the ground made the threefold division a great difficulty, and led to the interesting and picturesque grouping of the upper part of the Erechtheion.

The portico of the east front with its six rich Ionic columns, with doubled volutes, egg and dart echini, and a sculptured band of anthemions below, led into the shrine of Athene Polias. The portico on the north side, which projected beyond the back, led into the narrow shrine of Pandrosos, and from this a door opposite the portico opened into the herkos or enclosure of the sacred olive, often called the Porch of the Caryatides, since its light entablature is supported on the heads of six female figures. This is one of the most beautiful features of the building; the figures are graceful, erect, and strong, and do not seem oppressed by the weight they carry. So great is their beauty indeed, and so appropriate their position, that they have made people forget that they are an example of essentially false art, and they have been frequently imitated more or less unsuccessfully. The end wall between the herkos and the northwestern portico has four attached columns along its upper part which separate the windows—an unusual feature in a Greek temple. Within, three doors lead from the shrine of Pandrosos to the three remaining shrines which complete the building. The graceful proportions of the columns, their rich capitals, and the elaborate carving of the cornice, combine to render the building worthy of the Acropolis on which it stands.

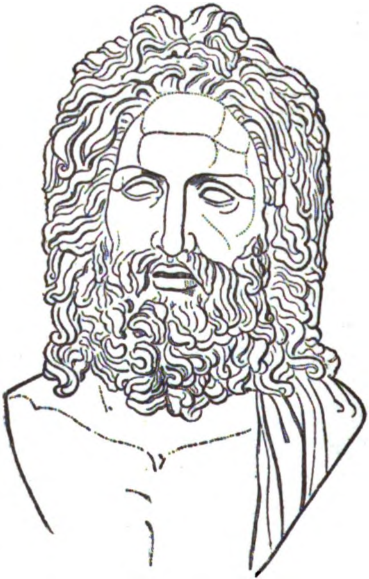
THE THEATER.

Descending from the Acropolis and passing round it to the left, we find the New Theater hewn out of the hillside. It is indeed *the* theater *par excellence*, for upon its scene the tragedies of Æschylus, Sophocles, and Euripides, and the comedies of Aristophanes were first given to the world. It was the model from which all other theaters were imitated. Around a circular floor, on which the chorus moved and danced and in the center of which stood the altar of Dionysus, the seats rose tier above tier in expanding circles around nearly three-quarters of the circle. A quarter of the circle was cut off by the front line of the stage. The stage or proscenium was backed by a wall with three doors called the scene, and bounded at the sides by parascenia. Between the line of the stage and the theatron were spaces in the level of the orchestra, from which the chorus advanced into the orchestra.

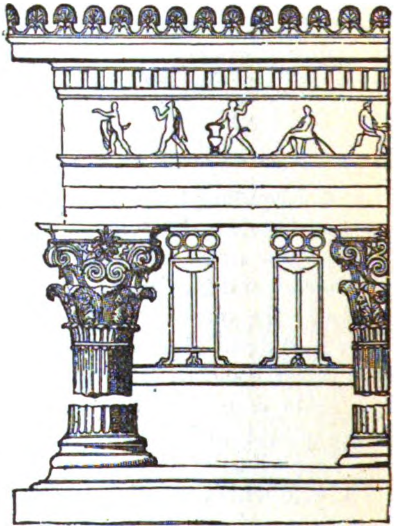
The new theater was so vast that it could hold fifty thousand people. Its acoustic qualities were so good that with the aid of the tragic mask the voices of the actors could be heard thruout; a colonnade round the top of the theater is said to have much to do with its excellence in this respect. The scene threw the sound forward, and prevented it being lost. Here in the days of Pericles the Athenians listened to the grand heroic tragedies of Æschylus in which they were shown the stern, relentless action of fate, and the more perfect works of Sophocles.

THE DELPHIC SANCTUARY.

Before exploring Athens any further we will make an excursion to the sanctuary of Apollo at Delphi. The Corinthian Gulf lies behind us. Over by the bay of Orissa there rise sheer rocks, separated by a dark ravine; they belong to the poet's mountain, Parnassus. Its precipitous summit would indeed be accessible only with the aid of the winged horses that the poets have imagined. We may content ourselves with mounting the terrace from which the old Doric temple looks down on the Peitho stream. From a height of 200 feet the Castalian spring, at which the poets drank inspiration, plunges down behind the temple. A second spring waters the laurel grove which surrounds the temple, a third provides the inhabitants of Delphi with water. There is no sound but the noise of the water, else all is still. From this silence we enter the temple where the oracle gives its answers.



Olympian Zeus



Portion of the Monument of Lysicrates at Athens.

Within the temple we see upon the walls the words of the seven sages, "Know thyself"; "Know the opportunity"; "Nothing too much": the latter, the statement of that principle of moderation which the Greeks applied so thoroly in life and in art. Around the cella are pictures, colored figures on colored ground, but without light and shade, and with no outline. These are the celebrated pictures by Polygnotus, the painter who decorated the Stoa Poikila and the Pinacotheca at Athens. The subjects were taken from the

Iliad and Odyssey. Tho these pictures are described as being without light and shade, the fact that Lucian speaks of Cassandra's red cheeks shows that there must have been more than one tint within one outline. Aristotle speaks of his figures as surpassing nature, and everything we are told about him points to a grandeur and richness of composition and a breadth of style to which none of his successors attained, tho they surpassed him in technique.

The Parthenon affords us abundant scope for estimating the work of Pheidias and his school; his greatest creation is the chryselephantine statue of Olympian Zeus, in which he embodied the Homeric description:

> "He spake and nodded with low shadowy brows,
> Waved on th' immortal head the ambrosial locks,
> And all Olympus trembled at his nod."

Portrait of Comenius. From the engraving by T. Cross in the English edition of "Orbis Pictus," 1705.

TEACHERS' EXAMINATIONS.

The questions given in this department have been selected from papers used at recent teachers' examinations in several states. The answers are necessarily suggestive rather than final, tho their accuracy can be depended upon as far as they go.

New York State Uniform Examination Questions.

Held August, 1903.

BOTANY.

Each of the following questions has ten credits assigned to it.

1. Distinguish between stem and root as to *a.* direction; *b.* branching; *c.* leaves.

2. State how the following plants are usually propagated; *a.* potato; *b.* strawberry; *c.* raspberry; *d.* quack grass; *e.* blackberry.

3. Name a plant which produces *a.* an umbel; *b.* a catkin; *c.* a raceme; *d.* a spike; *e.* a spadix.

4. Certain varieties of strawberry plants will not produce fruit if grown alone. Explain.

5. *a.* Name a cryptogamous plant. *b.* How are such plants propagated?

6. What is the natural means provided for the dissemination of the seed of *a.* the dandelion; *b.* the burdock; *c.* the apple; *d.* the maple; *e.* the dodder?

7. What service do aquatic plants perform for fish?

8. Name five leaf forms, and a plant producing each form named.

9. Black Mexican sweet corn was planted, but when the ears of corn were ripened they contained many kernels of white corn. Explain the occurrence, using botanical terms.

ANSWERS.

1. *a.* Stem grows upwards; root grows downwards (*b.* and *c.*). Stem branches, the branches bearing leaves and blossoms; root branches into fibers called rootlets, which bear neither leaves nor blossoms.

2. *a.* By planting pieces of the tuber, each piece containing one or more eye. *b.* By runners. *c.* Wild raspberry, by seeds. *d.* By rootstocks. *e.* Wild blackberry, by seeds or layering.

3. *a.* Milkweed. *b.* Willow. *c.* Currant. *d.* Mullein. *e.* Jack-in-the Pulpit.

4. They fail to fertilize themselves. Cross fertilization is required.

5. *a.* Maiden-hair fern. *b.* By spores.

6 *a.* The hairy pappus which blows about in the wind. *b.* The rough burr which catches upon fur or clothing. *c.* The fruit, which attracts birds and animals. *d.* The winged seed. *e.* The round pod, which, as it opens, sends the seeds in all directions.

7. Keep the water fresh.

8. Pinnate, locust; palmate; horse chestnut; round, kidney-shaped geranium; heart-shaped poplar; hastate, wild morning-glory.

9. It was a case of cross fertilization. Pollen from the white corn growing near the Black Mexican were carried to the latter, causing certain kernels on the ears of the latter to take the sweet corn form.

ASTRONOMY.

1. Define *a*, gravitation; *b.* prime vertical; *c.* right ascension; *d.* parallax.

. . W er threw the Ptolemaic theory? *b.* State one of Keplar's laws.

. Describe the apparent motion of the stars as seen by an observer *a.* at the poles; *b*. at the equator; *c*. midway between the equator and the poles.

4. *a*. Why is the earth's motion in its orbit not uniform? *b*. Which of our seasons does this tend to shorten?

5. *a*. During what season of the year is twilight longest? *b*. Give reason for your answer.

6. Mention two necessary conditions for *a*. a solar eclipse; *b*. a lunar eclipse.

7. *a* What is spectrum analysis? *b*. What are Fraunhofer's lines? *c*. Describe the solar spectrum.

8. Why do the fixed stars, tho really in motion, apparently have a fixed position?

9. Name two constellations and describe the arrangement of the principal stars in each.

10. Explain why Venus is sometimes called a morning star and sometimes an evening star.

ANSWERS.

1. *a*. The force with which all bodies attract each other. *b*. The vertical great circle of the celestial sphere passing thru the zenith at right angles to the meridian, and hence thru the east and west points of the horizon. *c*. The arc of the equator between the declination circle of a heavenly body and the vernal equinox, reckoned eastward. *d*. The difference between the directions of a body from the earth's center and from the point of observation on its surface.

2. *a*. Copernicus. *b*. The orbit of each planet is an ellipse with the sun in one of its foci.

3. *a*. The stars do not rise and set, but travel round and round in circles parallel to the horizon. *b*. The stars rise and set daily. Two points in the heavens appear immovable. All the stars remain above the horizon for twelve hours. *c*. Some stars rise due east and set due west. Others rise in the north-east and travel overhead. Others rise in the south-east and attain only a small elevation.

4. On account of the different angles of the orbit. *b*. Winter.

5. *a*. Summer. *b*. On account of the angle of the setting of the sun.

6. *a*. When the sun and moon are in opposition, and the moon comes in the ecliptic, the moon is projected on the sun, thus making an eclipse. *b*. If at the time of opposition of the sun and moon, the moon is sufficiently near the plane of the ecliptic, it will pass thru the shadow.

7. *a*. A chemical method of analysis of the lights of vapors. *b*. The solar spectrum is furrowed transversely by a multitude of fine dark lines, called Fraunhofer's lines. *c*. Consists of bands of various colors crossed by furrowed lines.

8. Because in comparison with the sun, moon, and planets they appear to us to have no motion.

9. Perseus, east of Cassiopeia, has a row of conspicuous stars extending down the Milky Way. Ursa Minor has the pole star, and another star of second magnitude, which lies nearly in the direction of Ursa Major.

10. From superior to inferior conjunction an interior planet is to the east of the sun. It then rises after the sun and sets before the sun, so that it is visible for a short time in the early evening. Between inferior and superior conjunction, the planet is conversely a morning star.

ZOOLOGY.

1. Define *a*. pupa; *b*. mantle; *c*. metamorphosis; *d*. larva; *e*. amphibian.

2. *a*. Give the metamorphosis of the frog; *b*. describe its heart.

3. Name five rodents, each representing a different family.

4. *a*. Name the four main groups of reptilia. *b*. How do the groups differ in skeleton?

5. Describe the circulation of blood in fishes.
6. Describe the order neuroptera as to *a.* body; *b.* wings.
7. Name the branch of the animal kingdom to which the *a.* oyster belongs; *b.* whale; *c.* slug; *d.* sponge.
8. *a.* Give the names of the different kinds of honey bees hatched in the same hive. Of what material is *b.* bee bread made; *c.* the comb? *d.* How is honey produced?
9 *a.* Name three animals of the group crustacea. *b.* Mention three of their chief characteristics.
10. Describe the circulation and respiration of birds.

ANSWERS.

1. *a.* The third stage of an insect that undergoes a normal complete metamorphosis.

b. In general, a covering or concealing part or organ. Specifically, flap of the membranous covering of a mollusk.

c. The change in form of structure due to development.

d. The early form of any animal when it is unlike the parent; in insects, the first stage after leaving the egg.

e. A class of vertebrates whose young have gills and are fish-like.

2. *a.* Spawn, egg, tadpole, frog. *b.* The heart has two auricles and a single ventricle.

8. Rat, porcupine, beaver, squirrel, hare.

4. Serpents, lizards, tortoise, crocodiles. In some no limbs are apparent; in others are rudimentary; in the remainder are fully developed.

5. The heart possesses but two cavities. Venous blood enters auricle; then enters ventricle, then to a vessel corresponding to pulmonary artery, to gills, where it is oxygenated, collected into the dorsal vessel, then to systematic capillaries.

6. *a.* The body is elongated, particularly around the abdomen.

b. Have four equal-sized membranous wings, divided by their nervures into a delicate net-work of little space.

7. *a.* Invertebrate, mollusca.
b. Mammalia.
c. Invertebrate, limacidæ.
d. Invertebrate, polyzoa.

8. *a.* Queens, males, and neuters. *b.* Pollen. *c.* Wax. *e.* Honey is secreted by flowers, whence it is collected by the working bees, which extract it by the proboscis, and pass it into the œsophagus. When the bee has arrived at the hive it disgorges the honey, probably altered by admixture with the secretion of the crop, into the cells of the comb.

9. *a.* Lobster, shrimp, crab. *b.* Armor covers bodies; articulated limbs; organs of respiration adapted to an aquatic life.

10. Heart is of large size, as compared with the bulk of the body. The trunk of the aorta is extremely short and divides into three main branches, the central one forming the descending aorta, while the two lateral ones give off the carrotid and subclavian arteries on either side. The branches of the latter give an abundant supply of blood to the powerful thoraic muscles by which the wings are moved. The respiration of birds is very perfect. The lungs are small and communicate with large air-cells in the cavities of the body, and even in the bones, so that the aëration of the blood takes place, not only in the lungs, but during the circulation thru the body.

GEOMETRY.

1. (a) Prove that the perpendiculars (extended if necessary) from the vertices of a triangle upon the opposite sides (produced if necessary) meet in a common point. (b) When is the point within the triangle; without; in one side?

2. Construct a triangle (a) from three given sides; (b) from two sides nd the included angle; (c) from two angles and the included side.

3. Four of the equal angles of an equilateral polygon are together equal to seven right angles. How many sides has the polygon?

4. The greater of two unequal chords of a circle is nearer the center. State and prove the converse of this proposition.

5. Prove that if, from a point without a circle, a tangent and a secant be drawn, the tangent is a mean proportional between the whole secant and its external segment.

6. Construct a mean proportional to two given lines.

7. Prove that the bisector of an angle of a triangle divides the opposite sides into segments which are proportional to the adjacent sides.

8. The base of a triangle is six feet, its altitude is ten feet. If a line is drawn parallel with the base, six feet from it dividing the triangle, what is the area of each part?

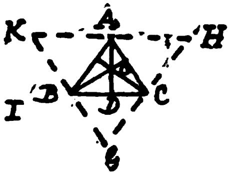
9. The perimeters of two similar polygons are in the ratio of *m* to *n* and the area of one is *s*. Find the area of the other.

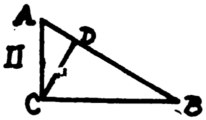
10. (a) Define *variable* and *limit of a variable*. (b) State and prove a proposition, the proof of which depends upon *the theory of limits*.

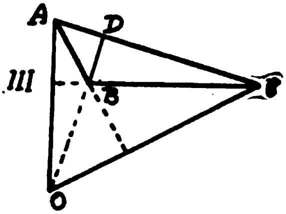
ANSWERS.

1. (a) Thru the vertices of A (see figure 1), draw lines parallel to the sides BC, AB and AC. These meet at the points G, H, and K, so forming a second triangle, which surrounds the first. Now AD is perpendicular to BC; hence, it is also perpendicular to KH, since a line perpendicular to one of two parallels is perpendicular to the other. The same is true of AB and AC. Now ABCH and ACBK are parallelograms, since their sides were drawn parallel. Hence, AH=BC, and AK=BC, since, in any parallelogram, the opposite sides are equal. Therefore, AH=AK. (Things equal to the same thing are equal to each other.) Hence, AD is perpendicular to KH at its middle point, and the same is true of the other perpendiculars. But it has already been proved that the perpendiculars to the middle points of the sides of a triangle meet in a common point. Hence, the perpendiculars from the vertices meet in a common point.

(b) This common point is within the triangle when all the angles are acute. It cannot be in one side only, but is in two sides; that is, at the vertex of the right angle when the triangle is right. It falls outside the triangle when it is obtuse angled.



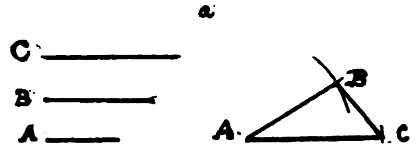


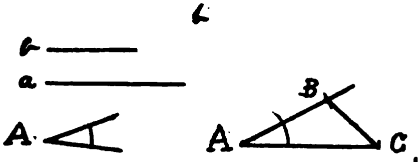


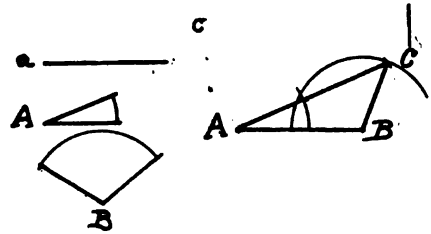
2. (a) Let *a*, *b*, and *c* be the three given lines. Draw a straight line equal to one, as *c*. With the dividers, measure the length of *b*, and, using A as a center, describe an indefinite arc; and, with C as a center, a second arc, intersecting the first at B. Join B to A and to C, and the triangle, ABC, is the triangle required, for all its sides are equal to the given lines.

(b) Let *a* and *b* be the given sides, and A the given angle. Lay off a line AC equal to *a*. At A, make an angle equal to A and draw its side indefinitely long. Then measure *b* in the divider and mark the point B on the line at the distance equal to *b*; join B and C, and ABC is the required triangle, for AB and AC equal *a* and *b*, and the angle A equals A.

(c) Let *a* be the given line, and A and B the given angles. Lay off a line AB equal the line *a*, and, at A and B, make angles equal to A and B.



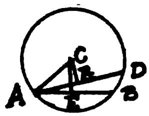




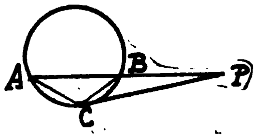
Draw these sides until they meet in C, and ABC is the required triangle, for the same reasons as before.

3. Since the sum of all the angles of a polygon= $(n-2)\,2\,R$, $\frac{4\times(n-2)\,2\,R}{n}=7R$.

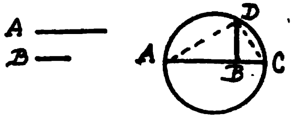
Solving for n gives n=16, the number of sides.



4. Of two unequal chords in a circle, the one nearer the center is the greater. Let AB and AD be the two chords. Draw CE and CF from the center C perpendicular to the two chords respectively. CE is given greater than CF, to prove AE, the half of AD, greater than AF, the half of AB. In the two right triangles, CAE and CAF, the hypotenuse is common. The side CF is greater than the side CE. Therefore, the angle CAF is greater than CAE, since, in two right triangles constructed upon the same line as an hypotenuse, the greater side is opposite the greater angle. Hence, the angle ACE is greater than the angle ACF, as they are the complements of the angles at A. Therefore, the side AF is greater than the side AE.



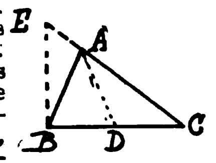
5. Given PA, a secant, and PC, a tangent, to prove that PA:PC=PC:PB. The angle BAC = the angle BCP, because each is measured by half the arc BC, for both the inscribed angle and the angle between a tangent and secant are measured by half the included arc. Hence, the triangles ACP and BCP are similar, and in similar figures the homologous sides are proportional; that is, PA:PC=PC:PB.



6. Lay off a line equal to the sum of the two lines, AC. Upon this as a diameter describe a semi-circumference. From B, the point of junction of the given lines, erect a perpendicular to the line AC and entending to the arc; this is the required mean proportional. For if chords

AD and CD be drawn, the figure becomes a right triangle, since the angle ADC is inscribed in a semi-circumference, and the perpendicular from the vertex of the right angle in a right triangle is a mean proportional between the segments of the hypotenuse.

7. Let AD bisect the angle BAC: then BD:DC=AB:AC. Draw BE parallel to DA and prolong CA until they intersect at E. The angle ABE equals the angle BAD, for two parallels cut by a secant line make the alternate angles equal. Similarly, the angle AEB equals CAD, which equals BAD. Hence, ABE=AEB; things equal to the same thing are equal. Therefore, the triangle AEB is isosceles and AB equals AE. But in the triangle CEB, the line AD is parallel to EB and divides the sides proportionally. Hence, BD:DC=EA:AC, substituting for EA its equal AB gives; BD:DC=AB:AC.



8. The area of the whole triangle is ½ (10×6), or 30. Areas compare as the square of their homologous lines. Hence, whole triangle: upper segment$=10^2 : 4^2 \therefore 30 \times 16 \div 100 = 4.8$, the area of the upper segment, $30-4.8=25.2$, area of the lower.

9. Since areas are as the squares of similar lines, $s : s^1 = m^2 : n^2 \therefore s^1 = \frac{sn^2}{m^2}$, the area of the second polygon.

10. (a) A variable is a quantity that may receive any required value. A variable reaches its limit when it differs from a constant quantity by an amount too small for measurement. (b) Two incommensurable rectangles are to each other as the squares of their bases. Take a measure, which goes an even number of times in one, but leaves a remainder in the other. Now, by steadily diminishing the measure, the remainder becomes smaller. In the limit, the remainder becomes too small to affect the result. Hence, the proposition.

CHEMISTRY.

1. *a.* What is the chemical composition of soap? *b.* To what is its cleansing power due?

2. Give two proofs that the air is a mixture and not a compound.

3. *a.* What is the chemical symbol of ammonia ; *b.* how may ammonia be prepared? *c.* What is the ordinary commercial ammonia?

4. What chemical changes occur in the manufacture of sulphuric acid?

5. Write the equation indicating the chemical action which takes place when *a.* potassium is thrown on water; *b.* sulphuric acid is poured on zinc.

6. What is *a.* a salt; *b.* a chemical change; *c.* a hydrate; *d.* an element; *e.* a metal.

7. What is the approximate weight of the hydrogen in 100 pounds of alcohol, or of hydrochloric acid?

8 *a*, What is the nascent state of an element? *b.* What special power has an element in its nascent state?

9. What is meant by the terms *a.* univalent; *b.* bivalent? *c.* Give an equation illustrating the meaning of one of these terms.

10. Name four natural substances each of which contains sulphur and a metal. Give either the chemical name or symbol of each substance mentioned.

ANSWERS.

1. (a) Soap is a stearate, oleate, or palamatate of soda or potassa, depending upon what fat or oil is used in its manufacture. The use of soda as the alkali makes a hard soap; potassa makes a soft soap. Tallow is glyceryl stearate and oleate Boiling with the alkali, separates it into sodium (or potassium) stearate, and glyceryl hydrate. (b) In the ordinary manufacture of soap, some free alkali remains dissolved or mixed. When this is brought in contact with dirt—one of whose ingredients is commonly a fat

or oil, it unites with it to form a soap, when the whole mass of dirt is removed.

2. One proof that air is a mixture, not a compound, is that a mixture of one part oxygen and four parts nitrogen shows all the leading properties of the air. If the proper proportion of argon, of carbon dioxid, and of water vapor be added it can in no way be distinguished from common air. The most conclusive proof that air is a mixture is that water absorbs the same amount of oxygen from the air that it absorbs from pure oxygen. It does the same with nitrogen. The proportions of the gases so absorbed are not, however, those of the air, but are very different, the amount of oxygen absorbed being larger than that of nitrogen. If the air was a compound, the gases must be absorbed in the proportions of one to four.

3 (a) Ammonia is H_3N. (b) Ammonia is made by heating some ammonium compound, commonly ammonium chloride, NH_4Cl, with a strong alkali, usually lime, CaO. The alkali reacts upon the $NH_4 Cl$, removing a molecule of HCl uniting with it to form a new compound and setting free the H_3N. This is the ordinary commercial process of making $H_3 N$. from gas water. (c) Commercial ammonia is a strong solution of H_3N. in water.

4. The first step in making sulphuric acid is the production of sulfurous anhydrid, SO_2. This is commonly obtained either by roasting iron pyrites in a free draft, or by burning sulphur. The sulfurous anhydrid is passed into a lead chamber into which steam and some high oxide of nitrogen, commonly nitro oxide N_2O_4, are also passed. The water in the form of steam, the sulphurous anhydrid and the nitric oxide mutually react making sulphuric acid, H_2SO_4, and leaving lower oxid of nitrogen, commonly N_2O_3.

5. (a) $K_2 + 2H_2O = 2KHO + H_2$. (b) $Zn + H_2SO_4 = Zn\,SO_4 + H_2$

6. (a) A salt is the compound, produced by replacing one or more atoms of the hydrogen of an acid by a metal. (b) Any change in the number of atoms which make the molecule of a substance is a chemical change. It may be a separation, a union, or an exchange. (c) A hydrate is the compound produced by the union of the hydroxyl radical with a metal. (d) An element is a substance whose molecule cannot be separated into atoms of different kinds. (e) A metal is a substance that can replace the hydrogen of an acid to make a salt. Metals are generally hard, dense, and possess a peculiar lustre called metallic.

7. (a) 13.04 lbs. (b) 2.74 lbs.

8. (a) The nascent state of an element is its condition when given off from a compound. (b) Usually only elements whose molecules contain more than one atom show any peculiar properties in the nascent state. Such elements show greater chemical power in that state, and it is commonly explained that the atom has a part of its chemical power used in joining with another atom to make the molecule.

9. (a) An element is univalent when it has the same combining power as hydrogen, H., which is made the unit. (b) A bivalent element has twice the combining power of hydrogen. (c) $H' + Cl' = HCl.$
$2H' + Q'' = H_2\,O.$

10. (1.) Lead sulphide or Galena, PbS. (2). Iron pyrites, FeS_2. (3) Gypsum, calcium sulphate $Ca\,SO_4\,2H_2O$. 4. Zinc sulphide, $Zn.S$.

GEOLOGY

1. Name the three most abundant elements in the matter forming the earth's crust and state in what substance or substances each is found abundantly.

2. What is true of quartz as to *a.* cleavage ; *b.* hardness ; *c.* fusibility ; *d.* durability ; *e.* susceptibility to the action of water and common acids ?

3. Classify rocks according to formation and describe briefly each class.

4. What is meant by *a.* sediment; *b.* silt; *c.* delta; *d.* alluvium *e.* drift ?

5. Show how valleys are made by *a.* erosion ; *b.* upheaval of mountains ; *c.* fractures of the earth's crust.

6. Name four Archæan rocks, and the most abundant ore of the Archæan Age.

7. Name *a.* the periods of the Upper Silurian era; *b.* an important deposit, a kind of mineral spring, and a sulphate found in the Salina rock.

8. Name *a.* the three periods of Mesozoic Time; *b.* the most abundant rock of that time; *c.* the most important animals.

9. In what ways can the relative ages of rocks be told?

10. Feldspar might be mistaken for quartz. Mention three ways in which feldspar differs from quartz.

ANSWERS.

1. Oxygen is the most abundant element. Probably silicon comes next, and calcium is probably the third. Oxygen is found free in the air; makes eight-ninths of water; and abounds in all the oxides as silica. Silicon is the base of silica and all the silicates, as clay. Calcium is the base of limestone, marble, and all calcites.

2. *a.* Quartz has no cleavage; *b.* is very hard; *c.* is infusible before the blowpipe, but can be fused in the oxy-hydrogen flame; *d.* is the most durable of all the rocks; *e.* is unaffected by water and the common acids.

3. Rocks are stratified and unstratified. Stratified rocks are in layers; were deposited from water; and so consist of hardened sediment. Unstratified rocks are mainly rocks that have consolidated from a melted condition, such as trap and basalt.

4. *a.* A sediment is any suspended material dropped from the water which carried it. *b.* Silt is the fine material washed from mingled sediment and commonly is carried further from the shore than the coarse materials. *c.* A delta is the portion of land built out into the ocean by the deposit of the sediment carried in a river's water and dropped at its mouth. *d.* Alluvium is the material deposited by a river at its sides when it overflows the banks. *e.* Drift is a general name for superficial deposits moved from one place to another. Formerly such deposits were supposed to be moved by water, mainly oceanic, as it overflowed the land. Most drift, is, however, glacial deposits.

5. *a.* As water flows from an elevation towards the ocean, it gathers in the hollows of comparatively level land. In these, the more soluble materials are dissolved, while others are moved forward by the energy of the descending water. This widens and deepens the little channel, until it becomes a miniature valley. At the same time the water continually cuts it back into the plain. The process continued for ages has made wide and deep valleys which have received the name of valleys of erosion. *b.* The bending of the earth's crust in the process of cooling has resulted in uplifting mountain ranges and depressing the portions between them, forming valleys. *c.* Occasionally the process of *b.* results in such a weakening of the strata along the outside of a bend as to produce a fracture of the surface strata. The broken parts move apart leaving a valley between, which is then widened and deepened by erosion.

6 Granite, felsite, basalt, and old limestone are four Archæan rocks. Iron ore is the most abundant of the Archæan ores.

7. *a.* The periods of the Upper Silurian are the Niagara, the Salina, and the Lower Helderberg. *b* The Niagara limestone is an important deposit, as is also the salt which gives the name to the Salina. Salt springs occur in the Salina; and Gypsum, the sulphate of lime, is closely connected with the salt deposits.

8. *a.* The three periods of Messozoic Time are the Triassic, the Jurassic and the Cretaceous. *b.* Limestone. *c.* Mollusks, as brachiopods, and lamellibranchs, with some crustaceans, such as trilobites.

9. The relative ages of rocks are determined; *a* a deposit resting upon another is the older; *b.* similarity of fossils determines approximate identity of age, while difference of fossils indicates different ages; *c.* the progress of life as shown by increasing complexity of the fossils shows earlier and

later ages. A careful comparison of strata over extended areas is often required to determine the relative ages of rocks.

10. Feldspar differs from quartz, *a*. in possessing cleavage along two directions at nearly right angles to each other, while quartz has no cleavage; *b*. the form of the crystal is entirely different, quartz being hexagoncal, feldspar quadrangular; *c*. quartz is harder than feldspar.

PHYSICS.

1. Describe an experiment to show (a) atmospheric pressure; (b) the elasticity of gases; (c) the elasticity of solids.
2. An iron ball weighs 75 lbs. in the air and 65 lbs. in water; (a) determine its specific gravity; (b) its volume.
3. State the laws which govern the rate of vibration of cords.
4. Describe the process of determining the mechanical equivalent of heat.
5. Describe the different images produced by an object as it is brought toward a concave mirror from a considerable distance in front of it.
6. How does the secondary rainbow differ from the primary?
7. What is the length of a pendulum that vibrates half seconds in the vicinity of New York?
8. (a) Name two kinds of energy. (b) What is the horse-power of an engine that can raise 35,000 pounds 500 feet in two minutes?
9. What weight of water at 9 degrees will melt 20 lbs. of ice at 0 degree?
10. Describe the construction of the essential parts of an electric motor.

ANSWERS.

1. (a) The bladder glass shows the pressure of the atmosphere. A cylindrical receiver has a piece of bladder tied tightly over one end and dried. The receiver is placed on the plate of an air pump, bladder upwards, and the air is exhausted, when the bladder bursts inward with a loud report, caused by the pressure of the air upon the bladder with a much diminished pressure on the under side.

(b) Fill a cylinder which has a piston fitting air tight with any gas and put the piston in on top of the gas. Apply a pressure of any known amount: *e. g.*, fifteen pounds to the square inch. This will diminish its volume in the proper ratio, that is one half. But upon removing the pressure the piston returns to its original position, which shows that gases are perfectly elastic.

(c) Allow a ball of wood or ivory to fall upon any common substance, as a piece of iron, and it will rebound. This shows that one or both of the bodies are elastic.

2. 75 lbs., less 65 lbs. gives 10 lbs., the weight of a volume of water equal to the volume of the iron ball. Hence 75+10=7.5, the specific gravity of the ball; because specific gravity is the relation of the weight of a body to the weight of an equal volume of water.

(b) As a cubic foot of water weighs 62 lbs. (very nearly) the ball has a volume of $\frac{10}{62}$ of a foot, or 278.7+ inches.

3. Stretched cords vibrate according to the following laws: I. The number of vibrations varies inversely as the length; II. The number of vibrations varies inversely as the radius of the cross section of the string.

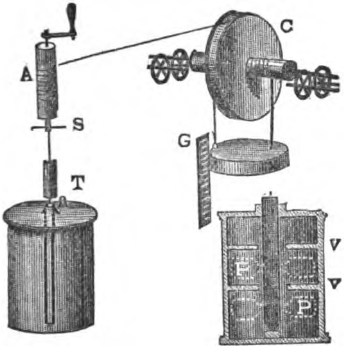
III. The number of vibrations varies as the square root of the stretching force.

IV. Of different materials the vibrations vary as the square root of the specific gravity, which represents the density.

4. The apparatus used to determine the mechanical equivalent of heat consists of a hollow cylinder containing a weighed quantity of water. The cylinder is surrounded by a packing of some non-conducting material to confine the heat produced in the water. A vertical shaft carrying a series of paddles turns in the water, motion being given to the shaft by unwinding a cord which passes over a pulley and has a heavy weight attached to its end. The time required for it to fall is carefully noted, as well as the distance that it descends. The temperature of the water is taken before

the apparatus is set in motion and at the end. The rise in temperature is caused by the exchange of the mechanical motion for heat.

The work done is measured by the product of the weight by the distance that it descends, less the loss by friction. This divided by the product of the mass of water by the number of degrees that it was raised gives the mechanical equivalent.



Note.—The figure shows the apparatus as used by Joule.

5. An object placed beyond the center of curvature of a concave mirror produces an inverted diminished image between the center and the mirror.

As it approaches the mirror, the image recedes and increases in size.

At the center, object and image blend.

When the object is between the center and its principal focus, the image is beyond the center and is larger than the object.

When the object is at the principal focus, the image is at an infinite distance, so disappears.

When the object is between the principal focus and the mirror, the image becomes erect, is behind the mirror, is smaller than the object, and is virtual.

6. In the primary bow, the ray of light enters the upper side of the raindrop, where it is refracted downward. At the same time it is split up into the several primary colors. In the secondary bow, there are two internal reflections and the light emerges at the upper side of the drop.

7. Since the seconds pendulum is one meter long, the half-seconds pendulum will be one-fourth of a meter long, the rate varying inversely as the square.

8. (a) Energy is kinetic, that is energy of motion; or potential, that is, energy of position. Thus a body on a tower of some given height, as one hundred feet, possesses potential energy. If the body begins to fall, the energy is changed to kinetic, these being exchanged again when it reaches the earth.

(b) A horse power is equivalent to 33,000 foot-pounds per minute. Hence (35,000×500) + (2×33,000) = 265.15+ horse power.

9 Since one pound of ice in melting absorbs the heat of 79.25 lbs. at 1°, reducing the whole to 0°, twenty lbs. will require twenty times as much. But since the water is at 9°, it will require only one-ninth as much. Hence the operation is 20×79.25+9=165 lbs., the water required

10. An electric motor consists of a permanent magnet, or an electro magnet charged by a small fraction of the current used to operate the motor taken to it thru a shunt. An armature commonly parallel wound, that is with the wires running parallel to the shaft upon which the armature turns, is placed between the magnet's poles. As soon as a current is sent thru this it begins to revolve, the wires being alternately attracted and repelled by the poles.

EDITORIAL NOTES.

Examinations in pedagogy are rapidly becoming established as essential tests in the selection of teachers everywhere. General scholarship is no longer considered a sufficient guarantee of fitness for school work. This is as it should be. A knowledge of pedagogy and its related sciences may not be proof absolute of teaching ability, but it does show that the possessor has made earnest efforts to equip himself with the best thought concerning education. Teaching requires first of all seriousness of purpose and a desire to bring to the work the completest preparation possible. It is the practical appreciation of this truth which has shut thousands of school-rooms to candidates for teaching who lack interest in professional study. New York city, which pays the best salaries to teachers, also insists upon the highest standard of pedagogical equipment.

Professional Teachers Wanted.

The requirements for licenses to teach are being raised wherever fair salaries and able boards of education command the services of good teachers. New York city being most liberal in the remuneration of its teachers, is also most insistent upon the qualifications of candidates presenting themselves for positions in the public school service. The board of examiners has established a standard of tests that may well serve as a model. Cramming up on pedagogical texts is useless. The New York city examinations are so conducted that surface knowledge and every species of sham must reveal themselves. Favoritism is completely eliminated. Honest work and genuine merit receive due recognition.

Other things being equal, the teacher able to give satisfactory evidence of being well-read in the literature of his profession should certainly receive the preference, if for no other reason than that his pedagogical studies reveal seriousness of purpose and a desire to make education a life study. "Teachers are born not made," to be sure. So are musicians. Who would care to argue that a violinist, or pianist, or composer can get along without instruction in his art? Yet there are people with sufficient courage of ignorance who will argue that teaching requires no special preparation. So sublimely self-satisfied are they with their ability to do almost anything they set out to try, that they would surpass, if they could, the young lady who, when asked whether she played the piano, replied, "I don't know. I never tried." These friends would not hesitate to assert that they could if they but wanted to try. What a ridiculous figure they do cut! Yet not so very long since they felt sure of a large and demonstratively appreciative audience whenever they took the floor in the assemblage of teachers. Times have changed. The future belongs to the teacher who knows his business, both theoretically and practically; and who has equipped himself with the best thought of the world concerning education.

The obscuranti, who cannot understand how any teacher can take pleasure in looking for light, are not satisfied to remain alone; they would have everybody sit in the darkness with them. One favorite argument of theirs, directed against educational journals and books on teaching, is, that the things described and suggested "can never be done." Their little twelve-by-nine horizon is to them the measure of all educational possibilities. Experience is detrimental to idealism and enthusiasm. "Faith is the evidence of things not seen." Educational theory will overestimate the power of education, and make appear as attainable what actuality denies us. But how much better it is to work with the enthusiasm of hope in the pursuit of an ideal than to depend upon experience to light a rush candle for them day by day! Pedagogy is the idealized experience of the human race organized into a system of education. How to transmit to the growing generation the greatest treasures of the ages—that is the problem it tries to answer. What a poor stick of a teacher he must be who does not care to know about it.

The Joy of Teaching.

How can anyone be pessimistic, or even dubious, as regards the educational attitude of teachers toward their work? A right sort of teacher will grow in heart and spirit, however difficult the work may be. System cannot crush the life, except it interfere directly with the usefulness of the teacher. Courses of study and syllabi have no discouragements if the requirements they establish are dictated by an enlightened interest in the educational development of the children. The editor rejoices in the receipt of a letter from a teacher in a large city school system, whose beautiful teacher spirit is evident from these words:

"After a most delightful summer I have gone back to school prepared to find all my theories as to what can't be done entirely false, and to make, what have hitherto seemed bare possibilities, accomplished facts.

"I have taught twenty years, normal children the first eight, and deaf children since, and in all that time there has never been a year in which I have not been able to accomplish more than in any previous year and to do it in a better way, and every set of children has always been a *little* more lovable than the last. Class by class they have differed a good deal in natural ability, but not much in affection and willingness to give of their best if it was wanted."

The December number will contain several pages of questions based upon the work covered in the numbers for September, October, and November. This review will afford an opportunity for testing not only the reading done, but also the thought given to the topics here presented.

Partial List of Articles to Appear in the December Number.

The Abiding Purposes of Education.—The Editor.
Causes of Failure in School Teaching.—J. M. Rice.

School Administration,

Rights of the People in Public School Affairs.—Andrew S. Draper.

Child Study and Child Training,

Attention and Interest.—John Adams.

History and Classics of Education,

Sir Joshua Fitch on Pestalozzi.
Emerson's Influence in Education.—Michael E. Sadler.
Froebel on "The School," from "Education of Humanity."

History of Art,

Second Period of Greek Art.

Review Questions upon the articles in the numbers from September to November.

Reading Courses for Teachers.

In response to a request of superintendents from all parts of the country we have prepared ten courses of study, fitted for use by city and country teachers, and at prices so reasonable as to bring them within the reach of teachers having the smallest salaries. These courses generally include the following:

(1) **Educational Foundations,** the monthly text-book of pedagogy.
(2) A book describing and explaining educational principles.
(3) A book describing and explaining methods of teaching and school management.
(4) A book treating of important phases of the history of education or educational psychology.

I.

Educational Foundations, one year,	$1.50
Page's Theory and Practice,	.80
Kellogg's School Management,	.50
“ Pestalozzi,	.15
Regular price,	$2.95
Special net price,	**$2.35**

II.

Educational Foundations, one year,	$1.50
Parker's Talks on Teaching,	1.00
McMurry's How to Conduct the Recitation,	.15
Rooper's Pot of Green Feathers,	.25
Regular price,	$2 90
Special net price,	**$2.15**

III.

Educational Foundations, one year,	$1.50
Spencer's Education,	1.00
Payne's Nature Study,	1.00
Quick's Educational Reformers,	1.00
Regular price,	$4.50
Special net price,	**$3.40**

IV

Educational Foundations, one year,	$1.50
Payne's Lectures on Education,	1.00
Hughes' Mistakes in Teaching,	.50
Lang's Great Teachers of Four Centuries,	.25
Regular price,	$3.25
Special net price,	**$2.40**

V.

Educational Foundations, one year,	$1.50
Dewey's My Educational Creed,	.15
Osterman's Interest in Education,	1.00
Seeley's German Schools,	1.50
Regular price,	$4.15
Special net price,	**$3.15**

VI.

Educational Foundations, one year,	$1.50
Fitch's Lectures on Teaching,	1.50
Hughes' How to Keep Order,	.15
Browning's Educational Theories,	.50
Regular price,	$3.65
Special net price,	**$2.55**

VII.

Educational Foundations, one year,	$1.50
Fitch's Lectures on Teaching,	1.25
Kellogg's School Management,	.50
Allen's Mind Studies,	.50
Regular price,	3.75
Special net price,	**$2.80**

VIII.

Educational Foundations, one year,	$1.50
Tate's Philosophy of Education,	1.50
Hughes' Securing Attention,	.50
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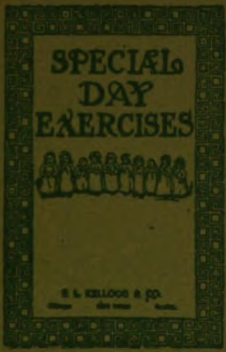

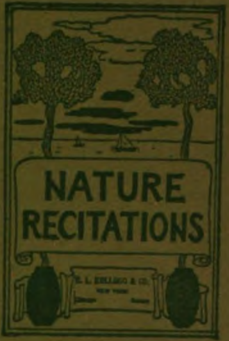

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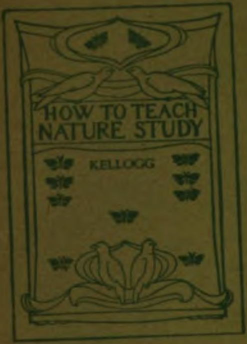
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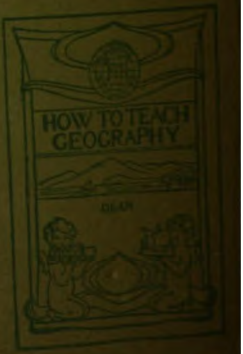

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Contents for December, 1903

Fundamental Considerations in School Economy. J. M. Rice - - - - 237
Review Questions - - - 246

METHODOLOGY OF EDUCATION

The Teacher Before his Class. J. B. Calkin 251
Assisting Teachers. William H. Maxwell 255

DISCIPLINE AND SCHOOL GOVERNMENT

Jungle Law as an Educational Code. R. A. Pennethorne - - - - - - 258
School Discipline. E. S. Dreher - - 261

PSYCHOLOGY AND CHILD STUDY.

Attention and Interest. John Adams - 265
A Child Study Plan. W. W. Stetson - 272

HISTORY AND CLASSICS OF EDUCATION

Sir Joshua Fitch on Pestalozzi - - 282
Emerson's Influence in Education. Michael E. Sadler - - - - - - 284
Froebel Concerning "the School" - 291

HISTORY OF GREEK ART

Greek Art—Second Period (Athens) - 296
Art in the Greek Colonies of Asia. Francis C. Turner - - - - - -
TEACHERS' EXAMINATIONS
EDITORIAL NOTES

Partial List of Articles Planned for the January Number

SCHOOL ADMINISTRATION

The Superintendent and His Teachers. C. B. Gilbert

METHODOLOGY OF EDUCATION

The Teacher's Use of Language, and Class Management. John Adams

CLASSICS OF EDUCATION

Froebel on Relation of Home and School
Selections from the Writings of Horace Mann
Teacher and Parent: Their Reciprocal Duties

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Educational Foundations

OSSIAN H. LANG, Editor.

Vol. XV., DECEMBER, 1903. No. 4.

Fundamental Considerations in School Economy.

THE opinion is often expressed that our schools are not as they should be. The complaint is heard, for example, that the graduates of our grammar schools have a very poor comprehension of arithmetic, and that their English is crude and faulty. These criticisms are largely justified, and are too sweeping only in so far as they fail to give credit where credit is due, for in a certain percentage of our schools some really excellent work is done. Nevertheless, in explanations of the cause of the difficulty, and in the remedy suggested the lay critics are, in my opinion, fundamentally and absolutely wrong. They attribute the unsatisfactory work to the supposition that the new studies which have been introduced into the curriculum in recent years have caused the three R's to be neglected. Then these critics believe the remedy lies in the elimination of the so-called fads, so that more time may be devoted to the so-called essentials.

Now the data I have collected during a series of investigations appear to me to prove that the results in any one branch are not determined by the amount of time devoted to it, but by the character of the instruction that the pupils receive. The facts show, in truth, that time devoted to a certain subject beyond a certain point is rewarded by little, if any, additional return, which means, of course, that if reasonable results do not follow upon a reasonable appropriation of time, the remedy does not lie in an increase of time. Indeed, the data concerning this point are so conclusive that in certain branches the time limit may be already fixed with some degree of definiteness.

THE TIME LIMIT FOR SPELLING EXERCISES.

My tests in spelling, for example, showed that the children in he schools who had devoted from 40 to 50 minutes daily to the subject did not spell better than the pupils in the schools where not more than 10 or 15 minutes daily had been devoted to it; indicating that all the time devoted to spelling beyond 15 minutes a day is wasted. Next, my test in arithmetic has proved that highly satisfactory results in that branch may be obtained by 45 minutes daily instruction, without home study; and the facts appear to indicate that the school which does not succeed with that amount of time would fail if the time should be increased very much beyond that limit. I have not yet been able to fix a time limit for language, but I have already tabulated sufficient data to feel convinced that the same principle applies to this subject as well. Under the conditions mentioned, it is clear that in practically all our schools enough time is set aside for the three R's to accomplish satisfactory results, and that the differences in the results are simply due to the fact that better use is made of the time in some schools than in others. The results of my investigations in spelling and arithmetic have been published from time to time in *The Forum*, and those in language are soon to appear in the same magazine.

As the varying degrees of success in the teaching of a branch are not due to differences in the amount of time devoted to it, but to variations in the character of the instruction, it is evident that the remedy for inferior results does not lie in increasing the time, but in laboring toward improvement in the teaching. This would appear to indicate that the variations in the results are due to differences in the general qualifications of the teachers, and that they are right who claim that the remedy lies in a higher standard of professional training. But, strange as it may seem, my statistical tables fail to show any direct relation between professional equipment and success. By this I mean that poor results are not infrequently found in schools whose teachers are, theoretically, of a comparatively high order, while good results are often found in schools where the theoretical qualifications of the teachers are less satisfactory. Or, taking two schools having teachers of equal grade, the results in one may be excellent, and those in the others miserable. From this it is clear that failure cannot be attributed primarily to insufficient preparation on the part of the teachers, and therefore that the desired end could not be reached by adding a year or two to the professional course and by the universal adoption of a system of administration assuring appointment upon merit alone.

THE REMEDY NEAR AT HAND.

It would, of course, be foolish to argue that more training and less politics were not desirable ends; but it so happens that the trouble is such that these would not strike at the root of the matter, and that we fortunately have near at hand a remedy by means of which the general efficiency of our schools could be markedly increased in a very short time with the teachers and the political conditions just as we find them in the schools to-day. I am fully aware of the fact that a remedy that promises marvelous cures is likely to have no value whatever; but then again there is always the chance that it may prove to be a specific. Let us hope that my diagnosis of the case is correct, and that my remedy is in truth a specific.

As to the diagnosis, I am of the opinion that the variations in the results are due primarily to the fact that our schools are suffering from the lack of standards indicating what results can and should be obtained in a subject when a specified amount of time is devoted to it in consequence of which our teachers have no definite goal in view, but simply teach as they are told to teach, and trust to luck in regard to results. If my conclusion is correct, the remedy is evidently two-fold. In the first place, it will be necessary to endeavor to determine how much knowledge and skill may be reasonably expected, under ordinary conditions, for a specified amount of time; and, secondly, it will be incumbent upon us to see that each child receives in return for his time and effort what he is justly entitled to receive.

That the development of reasonably reliable standards in a number of branches is perfectly feasible has been amply proved by my own investigations. The mode of procedure lies simply in submitting pupils of different schools and localities to uniform tests, and then basing our calculations as to what may be expected of all teachers upon the results obtained by the more successful ones. Naturally, many factors in addition to the results must be taken into account, so that the solution of the problem is not entirely free from complications; but no technical difficulties are involved which cannot be readily overcome. There is, in fact, only one adverse element in the situation, namely, that the labor involved in the development of standards, which is by no means insignificant, does not lie within the province of any individual or institution, so that if the work is undertaken at all, it will have to be done by private initiative and paid for by those who believe in it.

It may be of interest to note here that in February of the present year an association, known as the Society of Educational Research, was organized for the specific purpose of developing educational standards upon a very broad basis of facts; and that educators themselves are not at all averse to the idea is proved by their hearty response to the first call for members, upon whose fees the investigations will have to depend for support. The society will maintain a Bureau of Research whose purpose will be to place itself in touch with every important school center in the country, and to institute tests which will demonstrate with what success the various methods have been rewarded.

OUR LACK OF EDUCATIONAL STANDARDS.

That the schools of our country should be so conspicuously lacking in educational standards is but a natural consequence of our educational system, under which every locality is an educational world of its own, permitted to continue the even tenor of its way, regardless of what may be accomplished in the schools of other localities. No doubt, in due course of time, voluntary effort will serve to demolish the innumerable Chinese walls, and thus open to individual educators a very much broader field of vision than their present one. But, in the meantime, considerable progress in the right direction could and should be made officially, even under our present system of school administration; for while, under existing conditions, the school authorities of one locality are not expected to know what the schools of other localities are accomplishing, or to be guided thereby, it is no less true that they are responsible for the schools of their own locality, and are in position to know, and ought to know intimately, what is accomplished in them. In a word, while the differences in the success attained in the schools of different communities may be pardonable, to a certain extent, on the ground of our peculiar municipal system, this system is not in any way responsible for, and does not in any way pardon, the enormous differences so frequently found in the different schools of the same locality, extending in some instances from comparative excellence to actual demoralization. And while we have no central authority empowered with the means of assuring a thoro elementary education to every child in our country, the authorities of every community have the means of assuring equal opportunity to every child attending the schools directly in their charge; and steps leading at least to the development of local standards should be taken without further delay. By this I mean that the school authorities of every community should endeavor to acquire a clearly defined knowledge of what their more successful teachers are accomplishing, and then do what they can to raise the standard of all the schools in their charge to at least that level.

In view of our thoroly established system of local supervision, which, in many respects, is admirable, it may be supposed that what I now suggest as needed work had long since been carried into practice. But the truth is that our present system of supervision does not enable the superintendent to become as familiar as he should be with the detailed work of his schools, because he is not provided with the means of studying the results with the required precision. Indeed, in recent years, no special attention has been given to results, the emphasis having been laid on methods. Even where the superintendent devotes the major part of the school day to visiting schools, he does not, as a rule, acquire his knowledge of their status by a study of what the teachers have accomplished, but bases his judgment almost entirely upon the impressions he receives during his visits.

Now, when a superintendent gauges the success of a teacher by impressions, he is likely to go very far wrong. Miss A. may be vivacious and have the power of fascinating children; but she may be extremely superficial or lenient, so that while she may make an excellent impression, and her methods may be in accord with our present-day psychology, her results may be of a very inferior order. On the other hand Miss B. may be apparently slow, and her methods unscientific, in consequence of which she may make a rather poor impression; but she may be unusually exacting, and may have the power of making her pupils get down to business, so that her results may be far superior to those obtained by Miss A. However, no definite law can be laid down in this regard; for Miss A. may be a successful teacher in fact as well as in appearance, and Miss B. may be weak in both respects. And what is true of an individual teacher is equally true of a building as a whole. A principal may be very sweet tempered, and the results in his school may be good; or he may be a tyrant, and his results may be poor. Or the opposite may be the case. In a word, the spirit and bearing manifested by a teacher or a principal do not indicate the nature of the results, which can only be known thru a study of the results themselves. For this reason it is not enough for the superintendent to give his teachers the benefit of his judgment and to visit their schools to see whether they are following his directions; but he must in addition, take stock from time to time, to see whether their teaching has been successful.

NEED FOR PEDAGOGICAL BOOKKEEPING.

When a business man wishes to know how he stands, he does not acquire his information by walking thru his store to see how well his clerks are attending to business; but he consults his books, which alone can tell him the actual state of affairs. In the same way, it is only by maintaining a scientific system of bookkeeping that it will become possible for the superintendent to know his schools as they really are. A scientific system of pedagogical bookkeeping would require the superintendent to open an account with every teacher and every building; the various entries representing the class averages obtained upon uniform tests, undertaken, from time to time, in the individual branches, and suitable comments thereon. In this way the superintendent would be able to inform himself at any time as to the degree of success with which each branch had been taught by each individual teacher, and in each building as a whole; and marked inequalities would become so strikingly apparent that they would not be very long tolerated.

In conducting a system of bookkeeping such as I have outlined, two points would have to receive careful attention in order that the benefit of the system might be fully realized. In the first place, the tests would have to be tests in the true sense of the word; and, secondly, good use would have to be made of the papers that would be presented by the pupils. The character of the tests would be of great importance, because it would have a direct bearing upon the nature of the teaching thruout the schools. If the tests should be so formulated that the pupils could make a creditable showing if they had been drilled along mechanical lines, then the instruction would have a tendency to become mechanical, and the schools to become converted into vast machines. If, on the other hand, they should be formulated with the idea of seeing whether the instruction had been thoro and practical, and how well the pupils had been trained to think, then really good teaching would tell, while the pupils of mechanical teachers would collapse. As the examinations I have in mind would be tests of intelligence and ability rather than of a knowledge of facts, I do not think that the most radical reformer would have any cause to complain of them. Moreover, it must be clearly understood that these tests would not be intended to determine whether or not the pupils were fit for promotion, but simply to demonstrate their grasp of the respective subjects and their ability to apply their knowledge, i. e., whether the teacher had done her duty by them. The difference between a mechanical test and a test of power was very clearly demonstrated by my examination in arithmetic, upon which many classes that had ordinarily obtained between 80 and 90 per cent. on the teachers' tests did not obtain more than 15 or 20 per cent.

THE PROPER USE OF PUPILS' PAPERS.

As to the use to be made of the pupils' papers, this would necessitate a careful study of details in order that the superintendent might be able to tell in what particulars individual teachers or schools were strong or weak, so that his directions, with a view to improvement, might be direct and explicit. With this in mind, the work would have to be marked from many different points of view.

In arithmetic the papers should be marked for accuracy in computation and for the comprehension of principles, and a careful analysis of the errors should be made. In this way a single test would, in many instances, suffice to show wherein a teacher or a school had gone astray and where attention should be concentrated. In language, the test would have to be of such a nature as to give the pupils an opportunity to express their thoughts in writing; and the papers should be marked for sentence construction, for grammatical errors, for style, for thought power, for spelling, penmanship, and appearance. The papers from some schools would be found to be neat, the penmanship good, the thought satisfactory, but the sentence construction of a low order. These schools would need drill in sentence construction. In other cases, the language would be satisfactory, but the appearance poor, and here special attention would have to be given to penmanship and neatness, etc., etc., and similar principles would have to be applied to the study of papers in other branches.

The records containing all these facts, if properly compiled, together with a knowledge of the personality of the teachers, would enable the superintendent to know his schools as they really are; and, equipped with this knowledge, he would be in position not only to understand the needs of each school and teacher, but also to distribute the favors so that the schools could be more generally equalized, and the children of all districts given their right to equal educational opportunity. The needs of individual principals and teachers could be directly brought to their notice thru visits, meetings, etc., and the schools could be equalized by utilizing the individual teachers where they would be likely to do the most good. Teachers who should constantly fall below the standard could be placed in the schools of principals who had proved their power to get at least fairly good work out of comparatively poor teachers; and if they should fail even here, they would have no right to be teachers. On the other hand, very strong teachers should now and then be transferred to the schools of the weaker principals, for the purpose of bringing some order out of chaos. Again, the teachers in the schools showing marked weakness in particular branches should be brought into communication with the teachers of the schools where these branches had been well taught, in order that they might be able to see for themselves that their own work in such lines had really been weak, and to learn from their more successful colleagues what these had done to attain success.

POLITICS NOT A MENACE.

When I say that teachers who cannot succeed under any circumstances should not be retained in the schools, I do not lose sight of the fact that, owing to political pull, it is frequently impossible for the superintendent or a principal to secure the dismissal even of those whose inefficiency is generally admitted. However, this state of affairs, unfortunate as it is, must not be construed as indicating that good work is impossible, and poor work pardonable, where the politician is a leading factor in the schools. The truth is that inferior results are not pardonable on the ground of politics except in a limited number of cases, a number insufficient to bring down the general average of a school or a group of schools. In a word, the elimination of politics, tho much to be desired, is neither essential to nor a guarantee of favorable results. This contention is based on the fact that some of the best results upon my tests have been obtained in schools that have had the worst kind of political conditions to contend with, while some of the poorest results have been obtained in schools that have long been practically free from politics.

But in order to maintain a system of supervision such as I have described, due provision would have to be made for the purpose; and this would involve the establishment of a new department in every school system, to be placed in charge of a special assistant. This department might be appropriately known as the department of examinations, and the special assistant as the supervisor of examinations. The chief duties of this supervisor would be threefold:

(1) To prepare the regular examination questions, under the direction of the superintendent.

(2) To direct the marking of the papers and the tabulation of the results; and

(3) To see that the records were accurately kept.

Theoretically it would appear that such work as this should be done by the superintendent himself; but practically this would be impossible, because, in most instances, the superintendent already has more burdens on his shoulders than he can conveniently carry. I know from experience that the work of preparing test questions and of supervising the marking of thousands of papers calls for the undivided attention of one who can be held directly responsible for it; so that if the matter should be treated as a side issue, it might almost as well be left undone.

COST OF A COMPETENT CORPS OF SUPERVISORS.

'Altho by reason of quantity, the routine marking of the papers would have to be done, in any case, by clerical assistants, nevertheless the responsible head would have to devote considerable time to this work himself, as it would be necessary for him to familiarize himself with the peculiarities of the results of each test, so that he would be able to give specific directions to his assistants to insure marking upon a uniform plan. And, again, special instances may arise when the one who is responsible for the work will think it advisable to do all the marking himself, if possible, as in my recent test in language, when, for the sake of uniformity, I read and marked personally no less than 8,500 papers. The expense involved in the maintenance of a fully equipped department of examinations—which would mean, in addition to the special supervisor, one efficient clerk to about 150 teachers—would in the larger cities not exceed twenty-five cents per annum per pupil. In a word, it would mean an increase of about 1 per cent. in the cost of educating the child, in return for which might be expected an increase of 50 per cent. in the efficiency of the schools. In the smaller localities the salary of the supervisor would make the percentage of increase in cost somewhat larger; but this difficulty could be obviated if a number of such towns should combine to support the special department.

The proposed system, as above defined, would not in itself suffice to lead to the development of universal educational standards, based upon a study of the results obtained in the schools as a whole. It would simply serve to bring to view the results of the schools of an individual locality, so that the standards held up before the teachers would merely represent the better work of that particular group of schools. Nevertheless, while the system would not break down the barriers between the different localities, it could not fail to be an important step in that direction; for it is but natural to suppose that if a superintendent should know definitely what his own schools were accomplishing, he would be anxious to know how his work compared with that of other superintendents. Thus, it is probable that, in due course of time, superintendents of different localities would begin to come together to compare notes, not from a theoretical standpoint, as they have always done, but from the standpoint of results, as they have not yet begun to do. And if some of them should finally muster up enough courage to agree to formulate among themselves a series of tests to be submitted to their pupils in common, the Chinese walls would begin to crumble, and standards of a higher order would follow.

Editor of the Forum, New York. J. M. Rice.

REVIEW QUESTIONS.

Based upon the contents of EDUCATIONAL FOUNDATIONS
for September, October, and November.

Selections from the best lists of answers received by the Editor will be published. Quotations should be indicated in the text. A copy of a valuable pedagogic book will be sent to the one from whose list the largest number of answers are selected.

---

1. What constitutes a school?

2. What demands may the American common school justly make upon the teachers?

3. Discuss the proposition which defines the state in a democracy as a federation of school communities.

4. Show that the common school by the very nature of its origin involves co-operation of parents as a vital element.

5. How can the common school best keep in touch with the changing demands of practical life?

6. How can a superintendent of schools best serve his constituency?

7. What is meant by the freedom of the teacher? (Discuss limitations in a system of schools.)

8. Mention examples showing present divergence of functions assigned to school superintendents.

9. Under average conditions, what powers should be vested in a superintendent of schools? Argue each point.

10. Wherein may be found the real power of example as an educational factor?

METHODOLOGY.

11. What are the principal tests of a good method of teaching (a) an individual, (b) a class? (Give reasons.)

12. Which are the chief considerations entering into intelligent pedagogical criticisms of an efficient method of teaching children? (Fundamentals?)

13. Is a good method essential to success in teaching? Why?

14. Is it possible that a teacher may fail of success with a scientifically correct method? How and why?

STORY-TELLING AND LITERATURE.

15. Upon what does the power of visualization depend? (Psychological explanation and pedagogical inferences.)

16. What is meant by idealization, and in how far, and how, should the school cultivate it?

17. Discuss the educational uses of fairy tales.

18. What kind of allegories and fables are best suited as effective educational means? (Give full reasons.)

19. Enumerate the principal tests of good fiction for children, giving pedagogical reasons for each.

20. Outline a number of pedagogical criticisms of the literary material contained in the school readers you are familiar with.

21. What do you consider the chief educational uses of fiction?

22. What kinds of stories, and what elements in them, appeal most deeply to children? (Give reasons, and apply to the teacher.)

23. What stories are best suited to influence conduct? Characterize fully, and give reasons.

24. How may teachers develop the art of story-telling?

25. How would you define literature, and what relative place would you assign to it in laying down principles for an elementary course of study?

26. How much of the history of literature is necessary to an appreciation of literary classics?

27. How is literary expression best cultivated? (What cautions must be observed?)

28. What difference is there between literary self-expression and what John Morley calls, "practice in literary deportment on paper"? Draw deductions for the teaching of English in school.

29. What is the end of education on its literary side, and how may literature be made to serve toward the attainment of this end?

30. John Morley characterizes literature as one of the most powerful influences for forming character. Discuss this proposition, making sure you understand his definitions of both literature and character.

ENGLISH COMPOSITION.

31. How may the study of literary masterpieces serve as an aid to the teaching of composition?

32. How may young people be best trained in the use of pure, good English? (Omit reference to formal grammar, and give reasons for each statement.)

33. Is English composition better taught by training in thought than by training in expression? Explain, and give reasons.

34. What subjects are best suited for composition exercises? Give pedagogical reasons, and cite illustrations.

35. How can the teaching of composition be made to serve best the general ends of culture?

36. What principal differences between rhetoric and the art of self expression must the teacher of composition constantly bear in mind?

37. What oral preparation in the class do you regard as essential to the most beneficial exercise in composition?

38. How may the ordinary lessons of the regular school course be utilized in the writing of compositions?

39. What are the chief uses of reproduction exercises in composition? (Point out also cautions.)

40. What are the chief rules to be observed in the assignment of original topics for composition?

41. How may the humorous nature of children be stimulated to self-expression in composition work? (Give also cautions.)

42. What do you consider the most rational plan for criticising the composition exercises of pupils?

43. How may the correction of compositions become a valuable educational means? (Point out also mistakes frequently made by teachers.)

44. How may the private reading of pupils be best stimulated and directed by the assignment of topics for compositions?

45. What are the usual results of too frequent writing of compositions? (What is the most sensible rule to follow?)

GEOGRAPHY.

46. Discuss the relative importance of the various divisions of geography (physical, political, commercial, historical).

47. Explain the meaning of a geographical map, and indicate inferences for the teaching of geography.

48. How may the relations of geology and geography be brought before the child at school?

49. What are the chief results to be aimed at in the teaching of geography? (Give reasons.)

50. What is meant by the method of studying the geographical phenomena of the country by means of typical examples of its physical features? Discuss its value.

51. What importance is to be attached to map drawing as an aid in teaching geography?

52. What relation should the text-book bear to the map, in teaching geography? Give reasons.

CHILD STUDY AND CHILD TRAINING.

53. What is meant by child study and what are the princi-

pal ways in which it may be made to yield value to the educator?

54. Enumerate some of the chief characteristics of childhood with which the teacher should be fully familiar.

55. What is meant by anabolism and catabolism in the life of a child?

56. What are the fundamental differences between the life processes of the child and those of the adult?

57. Compare the child's sense of humor with that of the adult. (Deductions for judging literature and illustrations intended to please children.)

58. Why is the dramatic instinct so strong in children? Of what advantage is it to the child as a learner?

59. What accounts for the fact that children between seven and ten years of age find it easiest to learn things by rote?

60. What are the chief differences between adults and children as regards (a) perception, (b) memory, (c) emotions?

61. Since the teacher has to deal with individual children, he must study differences as well as resemblances. In other words he cannot be satisfied with a knowledge and understanding of childhood in general. Discuss this proposition, and suggest a plan of study.

62. What plan or plans of classification are best suited as aids in a study of individual children?

63. Give the general characteristics (a) of children in whom the motor nature predominates, (b) of children who are predominantly sensual?

64. What cautions must be observed in every grouping of children according to abstract notions?

65. What differences may there be between an individual in the mass, the same individual in dealing with a superior, the same dealing with a weaker individual, the same as an individual by himself? (What cautions to students of children?)

66. Why do adults usually regard their early childhood as the golden age of their lives? (Discuss unreliability of the average adult's understanding of child nature and children.)

67. What is the root of the chief defects of home education as commonly managed [controlled by impulses rather than principles]? Discuss, describe the resultant educational sufferings of children, and point out the duties which are by inference imposed upon the school.

68. Illustrate how difficult it is made to the average child to arrive at a clear understanding of his duties.

69. One of the chief sins of educators enumerated by Ferrero is that parents and teachers do not take children seriously enough in some matters, and too seriously in others. Discuss this, describing sufferings caused the children, and give pedagogical inferences.

70. What is the most efficient remedy which the child is given, by his own nature, for the pains caused him by unintelligent and bungling educators?

71. Mention special defects in children, which are most frequently noted at school, and describe appropriate lines of treatment.

72. Why is psychological training necessary to really fruitful child study?

73. What rules should be observed in the teaching of nervous children?

74. Discuss the backwardness of children, and suggest rules for their education.

75. What are the principal causes of mental fatigue in children?

76. Enumerate physical evidences of fatigue in children.

77. What are the usual effects of monotony in school work?

78. What are the usual causes of cruelty in nervous children?

79. How may a study of the social qualities of a child reveal the state of his physical and mental health?

80. What is to be thought of the lying of children, and what educational course is it best to pursue?

81. What do you consider the most rational course to pursue in the education of children who show precocity in some directions?

HISTORY OF EDUCATION.

82. Which methods, according to Comenius, are best suited for ascertaining and expounding truth? (Give an example of each).

83. What does Comenius mean by the "Syncratic" method?

85. What was the central purpose of the educational reform endeavors of Comenius?

86. What should form, according to Comenius, the essential characteristics of the method of school teaching ["thread of Ariadne"]?

87. (a) What does Comenius consider the final aim of all child training?

(b) The central and supreme school?

88. Give a brief biographical sketch of Comenius and indicate his place in the history of education.

METHODOLOGY OF EDUCATION.

The Teacher Before His Class.

THE CLASS AN ORGANIC UNITY.

THRU the teacher as its heart and soul the class is transformed from a gathering of separate individuals into an organic whole. Its members are held together by a bond of sympathy and mutual dependence, the peculiarities and distinct interests of each contributing to the advantage of all the others.

The work of teaching a class is more complicated and difficult than that of teaching a single pupil, but when properly done it yields more excellent results. The elements of number and diversity, which embarass the unpractised teacher, when skillfully directed become a source of power and a means of success. The variety incident to class work drives away monotony, prevents one-sidedness and infuses life.

In a properly managed class there are no idlers. The work done by one pupil is done by all. The questions and illustrations given by the teacher are received by every individual in the class as if specially addressed to himself; and the pupil called on speaks for the class, every member of which holds himself responsible for the answer given. Then he who for the time acts as spokesman for the class, feeling the pressure which comes from the interest and eagerness of the others, is stimulated to greater effort and higher achievement than he could attain to apart from this impelling force.

THE TEACHER SHOULD PREPARE THE LESSON.

To one who expressed surprise that after such long successful experience in teaching he should spend so much time in preparing for class work, Dr. Arnold of Rugby is said to have replied—"Wholesome water cannot be obtained from the stagnant pool." No matter how frequently the teacher may have taught the lesson he will find advantage in fresh study. If he gains no new facts, he will at least, find new ways of presenting the old ones; and even though the new way is, in itself, no better than the old, it will inspire the teacher with fresh enthusiasm and power. The teacher who ever follows the same beaten track becomes a weariness to himself, and enfeebles his energies by his monotonous humdrum.

In the case of the text-book lesson, the teacher should carefully study what has been assigned for the pupils to learn. This is essential to thoro and skillful examination, and also to such use of the statements of the book as shall give them power to awaken new thoughts in the minds of the pupils. The teacher who requires to keep one eye on the text-book while conducting a lesson, cannot exercise much power over his class.

Aristoteles Philosophorum princeps.

Aristotle with a class of his pupils.—From an old woodcut made by a master of the art at Augsburg, Germany, about 1480.

But the teacher should have other resources and more complete knowledge than the text-book affords. The ability to bring out of his treasury things new and old will inspire him with consciousness of power, give freedom in following out the details of the subject, and furnish him with varied illustration. It will give him the power to awaken the interest of his pupils and develop a love of knowledge which can never result from simply "hearing the lesson."

SHOW PUPILS HOW TO STUDY.

A mother once remarked that if the teacher would show her children how to prepare their lessons she would hear them recite.

Teachers are liable to overlook the fact that children do not know how to study. The preparation which they are most likely to make consists in simply memorizing words. They need to be taught to analyze the lesson so as to discover its various parts, divisions, or topics, with their relationship to each other and to old knowledge. Having thus looked at the lesson in its general outline, they should follow out each part in its details, illustrations, and practical applications. Such a preparation is based on intelligence. In assigning the lesson, the teacher should guide the pupils in this analysis until they acquire the ability to make it without his aid.

POSITION OF THE PUPILS.

Vigorous mental action is dependent on physical energy. A careless, lounging attitude of body induces a correspondingly relaxed and sluggish condition of mind. Pupils should sit erect in an attitude of expectancy, with eyes directed to the teacher; when called on to answer a question, they should rise promptly, stand firm and erect, and remain standing until directed by word or sign to resume their seat. Children should not be required to sit in any unnatural or constrained position, nor in any one position for a long time.

POSITION AND MANNER OF THE TEACHER.

The teacher should be animated and energetic, but not boisterous. His eyes should be vigilant, moving up and down the class. When requiring to use the blackboard, he should not turn his back to the class, but stand with the left side to the board. The work must move on briskly. After a difficult question, it may be advisable to allow a little time for thought before naming the pupil to give the answer. Even here, however, caution is necessary lest a habit of slow thinking be cultivated. The succeeding question should follow promptly after an answer has been given. A pleasant, cheerful and courteous manner, ease and grace in movement and taste in dress are important elements of success in the school-room.

VOICE CULTURE.

Careful culture of the voice claims the attention of every teacher who aims at a high standard of excellence. A good voice is a power in securing attention and order in the school-room. The teacher should not talk too much, nor too loud, nor in continued monotone. Children are often made uncomfortable and wholly unfit for work by the loud shouting and constant monotonous talk of the teacher. By speaking in low, soft, and well-modulated tones, the teacher is less wearied with work, and he is stimulated by the very music of his voice to higher effort; by the same means, also, the attention of the children is secured and a receptive condition of mind is induced by the peaceful serenity of the atmosphere in which they are working.

Some teachers speak in loud tones for effect—to make an impression. This is a mistake. Emphasis lies in modulation and contrast. Variation of voice should be cultivated,—low and loud and low again; from soft to strong, from slow to swift; but always *distinct*. Especially in giving reproof let the teacher speak in low, deliberate voice. Consciousness of power does not seek noisy demonstration.

THE PUPILS SHOULD DO THE WORK.

Doing is at once the highest test of knowledge and the surest means of progress. The teacher shows his ability by keeping his pupils in the foreground with the least possible display of himself. It is often easier for the teacher to do the work himself than to lead the pupil to do it intelligently. Sometimes, however, especially in miscellaneous schools, thru lack of time, telling or showing must take the place of teaching. When a teacher is compelled to work an exercise for a pupil, he should afterwards give the pupil a similar exercise to work out by himself. As far as practicable the making of diagrams and maps, blackboard exercises, pointing out places on maps, and other work of this kind should be done by the pupils.

REQUIRE FULL ATTENTION AND SELF-CONTROL.

The teacher should impress the idea that, unless by special exception, all questions and explanations are intended for every pupil in the class, and that every one is held responsible for the answers given. When the question has been stated all who are prepared to answer should raise the hand. This should be done quietly, without gesticulation or undue eagerness. When one is called on to answer the others should put down their hands and remain quiet until the speaker has taken his seat. Any movement to express dissent while one is speaking, besides being a violation of the rules of courtesy, will naturally cause embarrassment. After the one called on has taken his seat, hands should be raised to show dissatisfaction. It is often advisable to call on pupils who have not held up their hands. This will make an uncomfortable exposure of negligence and tend to secure attention.

DESIRE FOR KNOWLEDGE SHOULD BE ENCOURAGED.

Children are naturally inquisitive. The teacher should aim to cultivate the desire for knowledge and to direct it into proper channels. He should be especially attentive to those pupils who have little love for study, watching for manifestations of interest in different kinds of work. He should seek to encourage and strengthen any awakening interest that he may discover, and thru it develop wider interest and greater mental activity.

Children should be encouraged to ask questions on matters connected with the subject in hand, and also, at proper times, on other subjects in which they may be interested. If the question is irrelevant, calculated to take the attention from the subject under discussion, the matter should be deferred to a more suitable time. If the teacher is unable to answer a pupil's question, he should admit it frankly, and take the first available opportunity to obtain the desired information.

The teacher should recognize approvingly the faithful preparation of lessons. He should examine into causes of failure, and discriminate between failures, which arise from negligence and those which do not imply any fault on the part of the pupil.

Truro, N. S. J. B. Calkin.

Assisting Teachers.

The matter of assisting the regular teachers in the management of very large classes is one to which the New York City Board of Superintendents has given a great deal of consideration during the past year. There are now three different classes of "assisting" teachers in the New York schools:

(1) The morning kindergartner becomes an "assisting" kindergartner for an hour in the afternoon; the afternoon kindergartner becomes an "assisting" kindergartner for an hour in the forenoon; (2) in the part-time classes the teacher of the morning class becomes an "assisting" teacher for an hour in the afternoon; the teacher of the afternoon class becomes an "assisting" teacher for an hour in the forenoon; (3) the pupil-teachers of the training schools become "assisting" teachers during the entire day, when they are not employed as substitutes, in classes to which they are assigned by the principals of schools.

For the suggestion of the scheme of "assisting" teachers, we are primarily indebted to President Eliot, of Harvard, who, some years ago, pointed out that one way of obviating the difficulties of teaching a very large class is to provide an assistant to the regular teacher who could, upon occasion, take a group of pupils that for any reason require special attention. For many of the practical details of the plan, we are indebted to the scheme for individual teaching carefully and successfully worked out in the schools of Batavia, N. Y., by Superintendent John Kennedy.

The following instructions as to methods of utilizing the services of assisting teachers have been issued to principals:

A by-law of the board of education prescribes that "Teachers of morning part-time classes shall assist the afternoon teachers from 1.15 to 2.30 P. M.; teachers of afternoon part-time classes shall assist the morning teachers from 10 to 11.15 A. M."

The board of education adopted also the following by-law:

The course of study in training schools shall be two years in length; one and one-half years of this time shall be devoted to theory and observation, and one term to practice. The practice teaching shall be done in the elementary schools, and after the student shall have passed the examination for License No. 1 and shall have been given a substitute's license. Students holding substitute licenses shall be assigned to elementary schools by the principals of training schools, under the direction of the Board of Superintendents. In these schools they shall render service in place of absent teachers, and by assisting in the teaching of large classes when regular teachers are not absent. Such students shall report at least once a week to the principals of their respective training schools for criticism and advice. For each day of actual teaching service in elementary schools, either in substituting or assisting, th
receive pay at the rate of one dollar and a half per day. Principals of schools to which such students are assigned shall report their service to the principals of training schools, who shall prepare the necessary pay-roll.

There are thus two classes of assisting teachers: (a) the morning and afternoon teachers of part-time classes, and (b) pupil teachers from the training schools assigned to particular schools for substitute service, who, when not engaged in rendering substitute service, are to be assigned by principals to assist the teachers of large classes.

For the guidance of principals in directing the work of assisting teachers, the following suggestions are offered:

1. The work of the assisting teacher should lie chiefly in instructing those members of a class who may be deficient in one or more branches of study, with a view to bringing them up to grade.

2. When several children are similarly deficient, they should receive attention in groups rather than as individuals.

3. The assisting teacher should render assistance to the regular teacher in the room where the regular class is reciting and not in some other room. The children selected by the regular teacher for instruction by the assisting teacher should be grouped preferably in the most remote part of the room from that in which the regular teacher is doing her work with the larger part of the class.

4. Assistance can be rendered either at the time of the regular recitation or during a study period.

5. If the classes are divided into two parts, one for recitation, and the other for study, the work of the assisting teacher will be more effective.

6. The assisting teacher should assist deficient or backward pupils in all the branches and not confine her attention to one or two branches of study only.

7. The assisting teacher should always have in mind the necessity of doing her work in a quiet manner so as to distract as little as may be the attention of the pupils with whom the regular teacher is working.

8. While the assisting teacher should use her own individual method of bringing the backward or deficient pupils up to grade, she should endeavor to instruct the children so that the method of the regular teacher and her own shall in no way confuse or hamper the child when he shall come no longer to need special assistance.

It is further recommended that part-time classes which come in the morning for the first ten weeks of the term should come in the afternoon for the second ten weeks of the term, and *vice versa*.

It is firmly believed that by the harmonious working together of the regular teacher and her assistant it can be demonstrated that part-time classes for the lowest grades are advantageous rather than harmful, and thruout all grades by such harmonious action fewer children will fail of promotion at the end of the term.

New York. WILLIAM H. MAXWELL, City Superintendent.

By introducing the school physician, by asking parents to report health and home habits of children, we are treating home and school as parts of a single healthy, happy, useful life, and seeing that the avoidable breakdown of a child's health is murder in the first degree for which parents and school officers are jointly responsible. PRES. WILLIAM DEWITT HYDE.

Bowdoin College.

DISCIPLINE AND SCHOOL GOVERNMENT.

Jungle Law as an Educational Code.

THOSE of us whose lot it may be to act as explorers and pioneers and workers for the development of the youthful country, "Mansoul," must have often felt that, tho we may hold any number of concessions from the parental directors of the company, we are by no means certain as to what our reception may be by the natives thereof.

It is a great thing to have an ideal for education and a scientific method of attempting its realization, but we are not likely to do very much good unless we secure the co-operation of the child to be educated. This need not necessarily be unconscious; in fact, to keep it so is to risk bringing up a generation of fatalists, who rebel against all authority until crushed by its superior force, which they then promptly dub "cruel destiny."

Authority should ever go hand in hand with docility, and no obedience or submission is worth having unless it be voluntary. Yet there are many and great difficulties in sharing our educational doctrines with the children whom they most concern. It is "too hard for them," they cannot realize all the factors to be taken into consideration nor all the issues at stake, and to talk them over or to endeavor to explain them is to run the risk of "preaching." Nothing so minimizes the good we would fain do as to give occasion for the mental and moral recoil which all feel when they are "preached at." Whatever may be the discourse, the child is apt to believe that the text is found in the last chapter of your "Black Book for Pupils' Deadly Sins," and his sense of justice is offended at what seems to him an unwarranted form of scolding! It is no uncommon thing to find a child wishing that it were its own cat, dog, or pony, that it might be freed from the restrictions and restraints of its educators! The exaggerated love which most children bear to animals is partly the natural instinct of weak creatures to band together, partly the excess in the development of their own animal natures over the still more immature mental and moral endowments, and partly a sort of envious longing for their apparently more unfettered lot.

The children of this generation need no longer suffer from this perhaps natural deception. A prophet has arisen to prove that "the law is like the giant creeper, because it drops across everyone's back and no one can escape."

This "law" made by the animals from the dim necessities which they felt behind them, is a code both for the "jungle" and for the nursery. It provides us with that point of approach where child and teacher may meet in agreement. No one can call a delightful thrilling animal story "a preaching," neither having read the same can they ignore the lessons plainly taught them by their beloved animals.

"Jungle law," as set forth in the two jungle books, is an ideal moral code for children. It does not drive them back to seek for first causes nor encourage bewildering "why's." It is a series of regulations for the conduct of the individual, which are plainly shown to be necessary because all are members of a community. "The strength of the pack is the wolf, and the strength of the wolf is the pack."

Jungle law is very clear and plain as to our relationships with the world and ourselves; it does not enter into our relationship to God. But the spirit of submission to something higher than our own wills pervades it, and right and wrong, cause and effect, have their full recognition. The story of "How fear came," is only a variant of that first miserable awakening to self-consciousness and sin in the Garden of Eden. "Thou hast killed the buck, and thou hast let death loose in the jungle, and with death has come fear, so that the people of the jungle are afraid one of the other." That is the picture of the fallen animal world, who having all some cause to be ashamed must echo "to each his own fear."

The law is primarily for self-preservation, not for selfish purposes alone, but because the one is the unit of "the full pack." All must learn it, and that while young, for "is there anything too little in the jungle to be killed?" Moreover they must learn it in a humble and receptive spirit, "For the jungle is large and the cub he is small. Let him think and be still." The law is clear as to the respect we owe to ourselves—

"Wash daily from nose tip to tail tip, drink deeply but never too deep,
And remember the night is for hunting, and forget not the day is for sleep."

Every station of life is shown to have its own rights which may be duly claimed, and they are the rights of all of the same standing. Duties, namely the recognition of the rights of others, are quite as forcibly insisted on. The cub is to "keep peace with the lords of the jungle," to leave disputes to be settled by his superiors, to remember that "Pack right is the right of the meanest," and that "in all that the law leaveth open the word of the head wolf is law." Independence is inculcated. "Remember the wolf is a hunter, go forth and get good of thine own." But there are right and wrong ways of earning a living. "But kill not for pleasure of killing, and *seven times never kill man.*"

The law not only states general duties and rights, but it particularizes on many points. Two faults it is for ever girding at, openly or covertly, "raw haste half-sister to delay," and unnecessary talk. "What is the law of the jungle—strike first and then give tongue," so runs the saying, and useless objections, or any impatience against overruling powers are all met with "it is the law." Scorn of useless multiplication of words in argument is shown by the good advice—

"Feed them silence when they say
Come with us an easy way."

We are told that "the jungle people never hurry unless they have to, for it was haste that killed the yellow snake that eat the sun." But once a matter is in hand there is to be no shirking and turning back, "it is not good hunting to leave game afoot." For those who break the law the penalty is severe, "for the wolf that shall keep it shall prosper, but the wolf that shall break it must die." But for those who cannot fairly be held responsible there is justice, for "if there be a doubt which is not a killing matter in regard to a new cub, the life of the cub may be bought for a price." The law is strictly just, not nullified by the cruel kindness of a moment's weak pity, for "sorrow never stays punishment." But then on the other hand, "one of the beauties of the jungle law is that punishment settles all scores—there is no nagging afterwards." For those who are banded together by the law there is brotherhood and fellowship. "Good hunting all who keep the jungle law," but for the lawless there is scorn and repugnance. Bad companions are to be shunned and avoided, at great cost if needs be—

"When you say to Tabaqui 'my brother,'
When ye call the hyena to meat;
Ye may cry the full truce with Jacala,
The belly that runs on four feet."

As for the Bandar-log—the idle, chattering people, "Grey apes, who have no law," who are always *going* to be great and powerful, but who never complete anything, they are beyond the pale, "The monkey people are forbidden to the jungle people."

The whole law is opposed to lawlessness and is summed up in one word—

"Now these are the laws of the jungle, and many and mighty are
they;
But the head and the hoof of the law, and the haunch and the hump
is—obey"—

Or as the same writer has elsewhere expressed it, "Keep ye the law—be swift in all obedience."

Nor is the cub left without a mirror of all that obedience and the dutiful keeping of the law is to effect for him. In the beautiful "Out song" the results are expressed—

"Wood and water, wind and tree,
Wisdom, strength and courtesy;
Jungle favor go with thee."

The whole song is a reiteration of the main points of the law, not as the rod held above the back of youth, but as counsel to a matured mind. It might be summed up, "Keep the law and go unmoved upon your way; be strong, be straight, be silent."

It is all the more beautiful in that it realizes that "the way" no longer lies in the jungle, the days of animal enjoyment of life are over. The enjoyment remains, but as a recreation, not as life's business. "Man goes to man at the last." That also is the law, and childhood is only a time of preparation and of "law learning." But there comes a time, not to be dreaded, but to be looked forward to as a natural consequence, when tho "the jungle does not cast thee out," it is time to say, "Man is man and master of the jungle." When that day comes let us be ready to step aside with the knowledge that our task as Baloo the teacher is performed, saying, "Good hunting on a new trail."

R. A. PENNETHORNE.

In the "Parents' Review."

School Discipline.

Under ideal conditions, with ideal teachers and ideal pupils, school discipline can be maintained without resort to corporal punishment, or to any punishment whatever. But as such conditions are not attainable, and never can be, and as order is universally admitted to be essential to the establishment and perpetuity of any form of government, when disorder arises among the governed, in the school-room as elsewhere, it must be quelled by the proper authorities, then and there, if a state of anarchy and rebellion would be avoided.

I am constrained to think that one of the most dangerous tendencies of our times is the growing disposition to question and even to openly disregard the necessity for rendering obedience to legally constituted authority. In recent years this disposition has so insidiously manifested itself in the schools of the country as to give rise to the belief that many parents do not themselves place any restraining influences around their children while at home and oppose the exercise of authority over them by others when it conflicts with their preconceived indefinite ideas of justice and right.

"From different households," says Horace Mann, "where the widest diversity of parental and domestic influences prevails, the children enter the school-room, where there must be comparative uniformity. At home some of these children have been indulged in every wish, flattered and smiled upon for the energies of their low propensities, and even their freaks and whims enacted into household law. Some have been so rigorously debarred from every innocent amusement and indulgence, that they have opened for themselves a way to gratification thru artifice and falsehood. Others, from vicious parental example, and the corrupting influences of vile associates, have been trained to bad habits and are not unacquainted with vicious principles. Now, all these dispositions, which do not conflict with right more than they do with each other, as soon as they cross the threshold of the school-room, from the different worlds, as it were, of homes, must be made to obey the same general regulations, to pursue the same studies, and to aim at the same results. In addition to these artificial varieties, there are natural differences of temperament and disposition."

To harmonize and reduce to order these diverse dispositions, to secure the greatest good to the greatest number, to polish and refine their manners, to teach them the ordinary school branches, to respect the rights of others, to love virtue for virtue's sake, to be good and useful citizens of this world and zealous aspirants for a better citizenship in the world to come—these are some of the duties that every conscientious teacher must perform. The one burden of his mind is how best to do these great, these mighty things, full as they are, with the "pathos of eternity." The distant, inaudible "music of the spheres" and the silent, harmonious development of nature's manifold designs proclaim "order to be Heaven's first law." The whole earth, the universe, God; do they not all exist by reason of order? Truly, without it nothing was created, nothing exists. Here then is light to this burdened mind, to him who would be a soul-builder—to teach successfully he *must have order*. This having been determined, the means and methods by which order is to be enforced must likewise receive careful attention.

In matters of minor importance each teacher should be permitted to use such methods as will best secure the ends of good government in his room. But in more serious matters, involving the infliction of corporal punishment, suspension, or expulsion, definite rules should be prescribed by boards of education for the government of the teachers under their control.

I regret the necessity that compels the infliction of corporal punishment, and I sincerely hope the time will soon come when it can be abolished from the schools. But in my judgment, that time has not yet arrived.

The opponents of corporal punishment suggest expulsion as a remedy for this "crying shame" in the midst of modern civilization. This remedy enforced would bring joy to many teachers as far as actual school-room work is concerned, for all the bad boys would soon be out of school. As there would be no troublesome, bad boys in the school to "disturb the even tenor of his way," the teacher could then devote all of his time to imparting knowledge to the good boys yet remaining. To the question, "Where are your bad boys?" his answer would be: "Sir, I have no bad boys; they are all on the streets, and they are there simply because I was not permitted to whip them when they deserved it." If giving instruction and imparting information to a class were the only ends to be accomplished, then a few less or a few more boys in a room would make but little difference, but when the only true purpose of all teaching —the formation of noble character—is taken into consideration, then the exclusion of a single boy from the benefits of the schools is unforgivable until every means, even the rod applied with severity, has been exhausted and reformation appears hopeless.

David P. Page, one of the noblest and sincerest teachers this or any other country has ever produced, has spoken on this subject. In his book "On Teaching" he wrote: "It is very questionable whether it is ever expedient to expel a scholar for vicious conduct; and especially in cases where there is physical power to control him. The vicious and ignorant scholar is the very one who most needs the reforming influence of a good education. Sent away from the fountain of knowledge and virtue at this—the very time of need—and what may we expect from him but utter ruin. Such a pupil most of all needs the restraint and the instruction of a teacher who is capable of exercising the one and affording the other. But suppose he is dismissed, is there any reason to hope that this step will improve the culprit himself, or better the condition of the school? Will he not go on to establish himself in vice, unrestrained by any good influence, and at last become a suitable subject for the severity of the laws, an inmate of our prisons, and perhaps a miserable expiator of his own crimes upon the gallows? How many youth—and youth worth saving, too—have been thus cast out perversely to procure their own ruin, at the very time when they might have been saved by sufficient energy and benevolence, no mortal tongue can tell! 'Reformation is the great desideratum; and can any lover of his country hesitate between the alternative of forcible subjugation and victorious contumacy?' From all that has been said, it will be seen that I do not hesitate to teach that corporal infliction is one of the justifiable means of establishing authority in the school-room."

Columbia, S. C. E. S. Dreher.

A Dame School in Old New England.

PSYCHOLOGY AND CHILD STUDY.

Attention and Interest.

ATTENTION may be described as a concentration of consciousness upon any idea. Accordingly, we are said to attend to any idea that occupies the focus of consciousness; tho it must be remembered that we attend more or less to every idea that is in consciousness. There are thus degrees of attention, but so long as we are conscious at all, there is always some sort of attention—we are always attending to something or other. The mind is never really inattentive, tho it may not attend to things that other people would like it to attend to.

It is easier for the mind to attend to some things than to others. To some things we attend whether we will or not. In this case we have involuntary attention, better named *spontaneous* attention. If it costs us an effort to attend to something, we have *voluntary* attention. At first sight it may seem that voluntary attention is of more consequence than spontaneous; and it is sometimes said that the business of the teacher is to help the pupil to pass from spontaneous or voluntary attention. But as a matter of fact the teacher's aim is to train the pupil so that things which now require an effort of the will in order to direct the attention to them, will by and by claim spontaneous attention. It is surely no part of a teacher's work to increase the difficulty of attention.

There are two kinds of spontaneous attention, known as *primitive* and *apperceptive* respectively. The former is that kind of attention that we cannot refuse to appeals to the senses; the latter arises from the nature of the ideas that have found a place in the mind. If a street organ begins to play under our window, we cannot help giving it some attention. This is the primitive form. If the book we are reading at the time happens to be dull, we go on attending to the organ in spite of ourselves. But if we chance to be reading something which greatly concerns us, we dismiss the organ at once and go on with our reading. This is apperceptive attention; the power of the ideas already in the mind is so great that it overcomes the claims of the primitive attention. What we are interested in we attend to; and the business of the teacher is so to arrange the ideas in the mind of the pupil that apperceptive attention to desirable things will be aroused.

Interest is indeed the motive power of attention. The two are so closely related that they have sometimes been almost identified and treated as one. This is hardly correct. The two always exist together, but they can be clearly distinguished from each other. Interest is the pleasure-pain tone that accompanies attention. For it must be remembered that interest is not confined to pleasant things; we are often intensely interested in things that are very disagreeable. The emotional tone, then, that goes along with attention is interest. This is sometimes expressed in a different way by saying that interest is self-activity. This means that so long as we act freely and spontaneously we have a satisfaction in guiding our attention even tho this leads to a certain amount of pain. In relation to mere knowledge, interest has been described as the holding firmly to acquired knowledge with the *desire to acquire more.* So long as we wish to know more about a given subject we are interested in it. Here there arises still another distinction of importance to teachers. Interest may be aroused in a subject for its own sake, or for some ulterior object. If a boy learns a lesson in order to gain his teacher's approbation, or to help towards gaining a prize, his interest in the lesson is second hand, as it were, and is known as *mediate* interest. If, on the other hand, the boy begins his lesson with the aim of gaining a prize, and then gets interested in the matter of the lesson itself, he has passed from mediate to *immediate* interest. Of the two forms the latter is much the better. The teacher may often have to begin with mediate interest, but his aim should always be to pass on to immediate.

Since attention and interest are so closely connected with each other, it may be asked which is the cause of the other. Does attention rouse interest, or does interest rouse attention? There can be no denying that if we are interested in a subject we attend to it; it is important for the teacher to know whether the converse is true —that if we attend to a subject we must become interested in it. Suppose you try to fix your attention upon some very simple and in itself quite uninteresting thing, say the period at the end of the last sentence. You will find that the more you concentrate your attention on that punctuation mark, the less interesting does the mark become; and after a little time you will find yourself quite dazed with your efforts. But if you let your thoughts wander round the point, and take into account the nature of the sentence, the laws of punctuation, the character of the man who used this point, and other matters, you may get up quite a fair amount of interest in the full stop.

There can be no interest in one simple isolated idea. Only by being brought into relation to other ideas can it capture interest. This is what the psychologist means when he says: "We cannot attend to anything that does not change." Our will is incapable of fixing our attention for more than a second or two upon an isolated idea. That is, pure voluntary attention cannot be maintained for more than a few seconds at a time. Consider what happens in your own case when you try hard to read a difficult and, for you, uninteresting book. You find your attention wandering every few minutes, and have to recall it by an effort of the will. Your reading is made up of a long series of alternations between attention and inattention. All that your voluntary attention can effect is to bring the mind back to the point, time after time; but if the ideas to which the mind is thus turned do not interest the mind, and thus lead to spontaneous attention, the case is hopeless.

All that voluntary attention can do is to give ideas a chance of rousing spontaneous attention. In reading your uninteresting book you find that you can attend for a few minutes, but voluntary attention is not kept up all that time. It is exercised only at the moments at which you deliberately recall the wandering thoughts. The few minutes of perfunctory attention are the result of a feeble spontaneous attention roused by the mere *presence* of the uninteresting ideas. They seize the attention, but cannot hold it for more than a few minutes. It is for the teacher so to arrange the ideas that the voluntary attention of his pupils shall be at once supported and superseded by spontaneous.

This brings us to the problem, than which surely none is more important for the teacher: How to be interesting.

(a) Some say that the only way to interest young people is to keep on telling them new things. New things are always interesting. But, object others, if you talk about things that are entirely new, the children do not understand and soon get bored: talk to them about things they are familiar with, and they at once respond. The truth lies between the two extremes. Not the entirely new, nor the perfectly familiar, but both in combination are essential. The old in a new setting, or the new in an old setting is the arrangement that ensures interest.

The first thing the teacher has to do in seeking to rouse interest in a new idea is to *prepare a place* for that idea. By talking to the pupil, or by showing him pictures, we must call up in his mind all the ideas he has previously acquired that are likely to come into relationship with the new ideas we wish to introduce. Very often the teacher must introduce ideas into the mind of the pupil not so much for their immediate importance as for the use to be made of them at some future lesson. There is no greater charm for anyone than to find that a certain fact known in one connection, suddenly comes to be of use in an entirely new way. To maintain interest, each new lesson should be impressed upon the background formed by all that has gone before.

(b) Not only must a place be prepared for the new idea, but, if possible, *the need for it* should be made prominent. Advertisers understand this principle. Some years ago the whole country was flooded with large placards on which was printed nothing but a large frame in black. A week or two later the placards were replaced by others on which the words were printed within the frame: "Watch this frame." In due course, a third placard appeared, containing a simple advertisement that would, under other circumstances, have attracted little attention, but that, thanks to this careful preparation, had a wonderful effect. In teaching, however, it is well to make our devices less obvious. The more unconsciously interest is developed, the healthier the process. The farther back you can place the beginning of the preparation the better.

An ingenious teacher will always be able to find some points of connection between the present lesson and those which have gone before. If out of the old lesson can be generated a problem of which the solution is to be found in the new lesson, the conditions of interest have been completely fulfilled. In dealing with the new matter, the teacher should try to introduce occasionally the element of the unexpected. If the pupil suddenly finds that a certain line that his teacher has been following leads to a conclusion that explains some previous difficulty, he not only experiences the momentary gratification of intellectual achievement, but he begins to appreciate that there is more "sense" in what he has been learning than he had supposed. He learns to understand, in a dim way at least, the unity of the field of knowledge. This is what makes figures of speech and parallels of all kinds so interesting to children and adults alike.

(c) No one can hope to be interesting who is not able *to look at things from the point of view of the person to whom he is speaking*. The difference between a bore and an interesting person is that the bore speaks of everything from his own point of view, while the interesting person looks at everything from the point of view of the listener. A really interesting preacher may be said to occupy at the same time the pulpit and the pew. He speaks from the pulpit, but he looks at his subject from the pew. Inferior stories owe their lack of interest to the incapacity of their authors to change places with other people. All the persons in the story have different names, but they are all only the author in disguise. He nominally puts himself in their place, no doubt, but he remains himself all the time. The teacher must try to look at the world thru the eyes of his pupils, if he wishes to know what interests them. No man who cannot put himself metaphorically in the skin of another, has much chance of directing the interest of that other.

(d) One of the definitions of interest, you will remember, is self-activity. This leads us to the most practical direction towards being interesting. We must secure the *co-operation of the pupil* in all that we do. Unless the pupil does his share of the work, nothing can really interest him. The teacher, particularly the conscientious teacher, is strongly tempted to do too much for the pupil. It must be remembered that the teacher's business, so far from being to save the pupil trouble, is to make him take trouble of a particular kind. Thackeray tells us that one way of being dull is to say all that can be said on any given subject. Your interesting speaker always leaves something for his hearers to do, the doing of which secures their interest. There is in logic a form known as the syllogism. This consists of three sentences, the first two called the premises, the last one the conclusion. The favorite example in the books is:

All men are mortal. }
Socrates is a man. } Premises.
Therefore Socrates is mortal. Conclusion.

If you think for a moment you will see that the conclusion tells us nothing new; if we know the premises we can supply the conclusion for ourselves. Now the interesting person supplies the premises, but he leaves his hearers to draw their own conclusion. That is their share of the work, a share that they enjoy. But your dull man does not spare a single detail. Nobody nowadays uses the actual form of the syllogism; but we all use premises and draw conclusions. The teacher's work consists in supplying premises: it is for the pupil to draw the conclusion. With young or stupid pupils the premises must be given together, and the conclusion drawn at once. But with experienced men, or with clever children, it is often a good plan to give the premises at quite different parts of the lesson; or even to give one premise in one lesson, and the other in another, and then ask for the conclusion in a third.

For clever pupils, the farther apart the premises, the greater the interest in finding the true conclusion. For example, if a clever child who has just read the "Pilgrim's Progress" is asked what sort of weather it was when Christian and Faithful escaped from Giant Despair, he at once turns with interest to the account of the escape, but finds no mention of weather. The teacher gives the hint that on page so-and-so the explanation will be found. At first the pupil may be unable to find the clue. The teacher tells him to attend to any mention of weather on that page. The pupil finds it noteworthy that Giant Despair "sometimes, in sunshiny weather, fell into fits," and then remembers that the Giant had a fit on the morning of the escape. Were I to add here "and accordingly the pupil knows that the sun shone on the morning in question," I should be breaking my own rule, for the reader has already supplied this conclusion for himself.

(e) Every one who wishes to interest others must *himself be interested*. The point of the teacher's interest may not be the same as that of the pupil's. But he must be really interested all the same. Further, he must show his interest. It is a well-known fact that interest is infectious. Most people are familiar with the common trick of gathering a crowd in some busy thorofare by the simple expedient of standing and gazing fixedly at any object however insignificant. Amusing to others, this trick carries a practical lesson to the teacher.

To arouse and sustain interest is of such vital moment in teaching that scarcely any attention has been given by writers to the almost equally important subject of satisfying or allaying interest. It is perhaps impossible to have too much interest in a lesson, but it is quite common to have that interest badly distributed. In the course of teaching there is frequently a struggle of interests, and if the teacher desires to guide the pupil's interest in one direction, he must study the clash of interests in order the more effectively to favor the one that he desires to prevail. He must learn the art of killing interest, as well as the art of rousing interest. Now the best way of killing interest is not by opposing it, but by gratifying it. So soon as an interest has been satisfied, it dies a natural death.

The teacher must carefully consider beforehand which interest he should arouse in the course of a lesson, and generally speaking he ought to arouse as few interests as possible. In all cases, he must try to avoid rousing any interest that is likely to be more powerful than the main line of interest that runs thru the lesson. In spite of all his endeavors, however, the teacher will often find that he has called up powerful interests that compete with the interest he has mainly in view: and in any case even the subsidiary interests he arouses must be dealt with as they arise, or they will form a powerfully distracting force. Side issues must be treated in such a way as to satisfy all the interest they excite, while the main subject of the lesson is managed so as to maintain the interest to the end.

Interest is rhythmic in its progress; its course might be represented by a rising and falling line, the rises standing for the waxing, the falls for the waning interest. The line representing the interest movements of a lesson as a whole may rise or fall gradually, while the waviness of the line would represent the rise and fall of interest in the different points. The question here comes up: Should the interest curve be high or low at the end of a lesson? At first sight it would seem that the progress in a lesson should be marked by a gradual increase of interest, and that the end should be the highest point of interest. But it must be remembered that the lesson has to be considered from two points of view:

(a) It is a unit so far complete in itself.

(b) It is a unit in a more complex whole which includes all the course of study for the session.

It has therefore two functions to perform. As an independent unit it must satisfy the interest it has aroused; for this is only another way of saying that it must be complete in itself. As a part of a wider whole, as one in a series, it ought to finish with sufficient unexhausted interest to carry the pupil over to the next lesson. The two requirements are not incompatible. In serial stories of a sensational kind the writer contrives to end each part at the very crest of a wave of interest; but in this case the part of the story is not a whole in itself; it is a mere bit cut off so as to end in this alluring way. In a really good story we are led on by the accumulated interest of the whole. In this case we can stop easily at the end of an ordinary chapter, without fear of losing interest in the story as a whole. And yet the chapter (being found in a well-written book) has aroused an interest of its own, and has satisfied that interest; otherwise it is not a whole, complete in itself so far as it goes, as every chapter should be. While the chapter-interest dies with each chapter, the story-interest goes on increasing from chapter to chapter. So in teaching: The lesson-interest should run down at the end of each lesson, but the interest of the course as a whole should rise from lesson to lesson.

University of London. JOHN ADAMS.

We need not fear to identify ourselves too closely with children's thoughts and interests of whatever kind. The more the thought of the teacher prevails with the child the better is he safeguarded from many possible ills. H. THISELTON MARK.

A Child Study Plan.

DO not judge your pupils by single facts. Make a careful study of each of them in some of the particulars indicated below. Strive to make your estimates as accurate as sympathetic study can render them.

It is hoped that a faithful compliance with this request will enable you to understand your pupils better, and that from this knowledge you will be prepared to strengthen their weak places and develop those powers which give promise of proficiency in some worthy work.

Name of town ....
Name of school ....
Name of teacher ....
P. O. Address of teacher ....
What was your favorite study when a pupil? ....
....
What would you prefer to study if you were to attend school again?
....
What branch do you prefer to teach? ....
Whole number of pupils enrolled: boys.........girls.........

PARENTS OF PUPILS:

American,	boys....	girls....
French,	"	" ....
English,	"	" ....
Irish,	"	" ....
Swedish,	"	" ....
German,	"	" ....
Russian,	"	" ....
Italian,	"	" ....
Other nationalities,	"	" ....

PHYSIQUE:

Sturdy,	boys....	girls....
Strong,	"	" ....
Flabby,	"	" ....
Puny,	"	" ....
Deformed,	"	" ....
Defective vision,	"	" ....
Defective hearing,	"	" ....

CARRIAGE:

Erect,	boys....	girls....
Graceful,	"	" ....

Shambling, “ .... “ ....
Awkward, “ .... “ ....

INTELLECT:

Great grasp, boys....girls....
Strong, “ .... “ ....
Active, “ .... “ ....
Brilliant, “ .... “ ....
Sluggish, “ .... “ ....
Weak, “ .... “ ....
Very weak, “ .... “ ....

EMOTIONS:

Sensitive, boys....girls....
Under control, “ .... “ ....
Not under control, “ .... “ ....
Mold conduct, “ .... “ ....
Do not mold conduct, “ .... “ ....
Impulsive, “ .... “ ....
Irritable, “ .... “ ....
Unstable, “ .... “ ....
Uncertain, “ .... “ ....
Uneven, “ .... “ ....

WILL:

Resolute, boys....girls....
Stable, “ .... “ ....
Controlling, “ .... “ ....
Stubborn, “ .... “ ....
Weak, “ .... “ ....
Very weak, “ .... “ ....

POWER OF:

Great concentration, boys....girls....
“ application, “ .... “ ....
“ endurance, “ .... “ ....
“ self-reliance, “ .... “ ....
“ confidence, “ .... “ ....
“ perseverance, “ .... “ ....
“ control of muscles, “ .... “ ....
Av. concentration, “ .... “ ....
“ application, “ .... “ ....
“ endurance, “ .... “ ....
“ self-reliance, “ .... “ ....
“ confidence, “ .... “ ....
“ perseverance, “ .... “ ....

	“ control of muscles,	“	“ ....
	Small concentration,	“	“ ....
	“ application,	“	“ ....
	“ endurance,	“	“ ....
	“ self-reliance,	“	“ ....
	“ confidence,	“	“ ....
	“ perseverance,	“	“ ....
	“ control of muscles,	“	“ ....
Memory:			
	Retentive,	boys....	girls....
	Ready,	“	“ ....
	Verbal,	“	“ ....
	Weak,	“	“ ....
	Very weak,	“	“ ....
Reason:			
	Strong,	boys....	girls....
	Normal,	“	“ ....
	Weak,	“	“ ....
	Very weak,	“	“ ....
Imagination:			
	Vivid,	boys....	girls....
	Normal,	“	“ ....
	Weak,	“	“ ....
	Very weak,	“	“ ....
Observation:			
	No. who see objects and their parts quickly,	boys.... “	girls.... “ ....
	No. who contrast intelligently,	“	“ ....
	No. who compare intelligently,	“	“ ....
	No. who analyze logically	“	“ ....
	No. who see beauty in an object,	“	“ ....
	No. who see the beauty in a thought,	“	“ ....
	No. who see the beauty in a sentence,	“	“ ....
	No. who see beauty in a picture,	“	“ ....
	No. who see the ideas in a picture,	“	“ ....
	No. who see the pictures in a poem,	“	“ ....

MANNERS:

Courteous,	boys....	girls..
Refined,	“	“ ....
Gentle,	“	“ ....
Reserved,	“	“ ....
Coarse,	“	“ ....
Rude,	“	“ ....
Clownish,	“	“ ....
Rowdyish,	“	“ ....
Foppish,	“	“ ....

MORALS AND HABITS:

Truthful,	boys....	girls....
Untruthful,	“	“ ....
Trustworthy,	“	“ ....
Dishonest,	“	“ ....
Obedient,	“	“ ....
Disobedient,	“	“ ....
Vicious,	“	“ ....
Malicious,	“	“ ....
Depraved,	“	“ ....
Unstable,	“	“ ....
Humane,	“	“ ....
Polite,	“	“ ....
Punctual,	“	“ ....
Methodical,	“	“ ....
Unmethodical,	“	“ ....
Attentive,	“	“ ....
Inattentive,	“	“ ....
Persistent,	“	“ ....
Lazy,	“	“ ....
Willful,	“	“ ....

MISCELLANEOUS:

Energetic,	boys....	girls....
Resolute,	“	“ ....
Irresolute,	“	“ ....
Plodding,	“	“ ....
Timid,	“	“ ....
Courageous,	“	“ ....
Generous,	“	“ ....
Selfish,	“	“ ....

	Hopeful,	“	“ ....
	Despondent,	“	“ ....
	Peaceable,	“	“ ....
	Quarrelsome,	“	“ ....
	Worrying,	“	“ ....
	Suspicious,	“	“ ....
	Fastidious,	“	“ ....
	Easily discouraged,	“	“ ....
	Vain,	“	“ ....
	Jealous,	“	“ ....
	Intense in hatreds,	“	“ ....
	Imitative,	“	“ ....
	Original,	“	“ ....
	Can make things with tools,	“	“ ....
	Like muscular exercise,	“	“ ....
	Much affected by what they term beautiful,	“	“ ....
MOTIVES THAT INFLUENCE:			
	Honor,	boys....	girls....
	Love,	“	“ ....
	Praise,	“	“ ....
	Rewards,	“	“ ....
	Desire to excel,	“	“ ....
	Fear,	“	“ ....
HOW CONTROLLED:			
	Muscle,	boys....	girls....
	Will,	“	“ ....
	Emotions,	“	“ ....
	Self-control,	“	“ ....
ARTICULATION AND PRONUNCIATION:			
	Pleasing,	boys....	girls....
	Accurate,	“	“ ....
	Distinct,	“	“ ....
	Inaccurate,	“	“ ....
	Indistinct,	“	“ ....
	Mumbling,	“	“ ....
	Drawling,	“	“ ....

Language Written and Spoken:

Characteristic, boys....girls....
Felicitous, “ .... “ ....
Clear, “ .... “ ....
Appropriate, “ .... “ ....
Concise, “ .... “ ....
Expressive, “ .... “ ....
Verbose, “ .... “ ....
Slovenly, “ .... “ ....
Indefinite, “ .... “ ....
Meaningless, “ .... “ ....
Incorrect, “ .... “ ....

No. Studying: . .

Reading, boys....girls....
Spelling, “ .... “ ....
Writing, “ .... “ ....
Drawing, “ .... “ ....
Arithmetic, “ .... “ ....
Language, “ .... “ ..
Music, “ .... “ ....
Geography, “ .... “ ....
History, “ .... “ ....
Nature Studies, “ .... “ ....

Favorite Studies:

Reading, boys....girls....
Spelling, “ .... “ ....
Writing, “ .... “ ....
Drawing, “ .... “ ....
Arithmetic, “ .... “ ....
Language, “ .... “ ....
Music, “ .... “ ....
Geography, “ .... “ ....
History, “ .... “ ....
Nature Studies, “ .... “ ....

No. Who Excel in,

Reading, boys....girls....
Spelling, “ .... “ ....
Writing, “ .... “ ....

Drawing, “ .... “ ....
Arithmetic, “ .... “ ....
Language, “ .... “ ....
Music, “ .... “ ....
Geography, “ .... “ ....
History, “ .... “ ....
Nature Studies, “ .... “ ....

No. Who Are Deficient in,

Reading, boys.... girls....
Spelling, “ .... “ ....
Writing, “ .... “ ....
Drawing, “ .... “ ....
Arithmetic, “ .... “ ....
Language, “ .... “ ....
Music, “ .... “ ....
Geography, “ .... “ ....
History, “ .... “ ....
Nature Studies, “ .... “ ....

No. Who Read Outside of Text-Books,

Excessively, boys.... girls....
Largely, “ .... “ ....
Reasonable amount, “ .... “ ....
Little, “ .... “ ....
None, “ .... “ ....

Character of Books Read:

Standard, boys.... girls....
Helpful, “ .... “ ....
Trashy, “ .... “ ....
Vicious, “ .... “ ....

Name five favorite books of pupils,............................
Name five favorite songs of pupils,............................

Attitude Toward School and Work:

Attached, boys.... girls....
Interested, “ .... “ ....

Indifferent, “ .... “ ....
Hostile, “ .... “ ....

REQUIRED WORK:

Too much reasoning for....per cent. of pupils.
Not enough reasoning for....per cent. of pupils.
Too much observational work for....per cent. of pupils.
Not enough observational work for....per cent. of pupils.
Beyond capacity of pupils in ....
Not enough for capacity of pupils in ....
Are your pupils doing enough work in oral language?
Are your pupils doing enough work in written language?
Are your pupils doing enough work in mental arithmetic?
Are your pupils doing enough work in general reading?

Special talent for some one thing, boys....girls....
Special talent for no one thing, “ .... “ ....
Aptitude for several things, “ .... “ ....

SCHOLARSHIP:

Excellent, boys....girls....
Good, “ .... “ ....
Fair, “ .... “ ....
Poor, “ .... “ ....
Very poor, “ .... “ ....

What is most interesting to them in nature, books, school work, outside work, recreation? (No. of boys interested in each. Same of girls.)..

What portions of arithmetic do your pupils find most difficult? ....

What topics in arithmetic do they find least difficult?........

What use is made of memorial holidays?..................

EXPLANATIONS AND SUGGESTIONS.

In order that each teacher may study the child from the side in which she is best fitted to pursue her investigations, a large number of topics are printed.

It is as true of studying a child as any other complex problem that a careful study of any item brings revelations as to other powers or qualities.

The thought, feeling, and action of a person are so closely related that you cannot study one of these forms of activity without learning much of the others. To know a child thoroly as to his abilities, habits, manners or motives is to know something worth while about each of the others. Each is a mirror in which the whole is more or less faithfully portrayed.

This study must induce the teacher to become interested in her pupils as individuals. Who they are, what they are, whence they came, whither they are going, what they want to do, what they can do, the place they are to fill in the world and the training they need to fill this place, are among the questions that will press for answers. Generalizations are valuable, but to be authoritative they must be based on carefully considered details.

Know the child and you will come to know children. Love the child and you will grow to love children. Teachers should think less about their schools and more about the boy or girl. The mass will take care of itself if the individual is properly cared for. One of the great evils of the public school is found in the fact that the individual child has ceased to be an object of interest—he is lost in the mass. He no longer stands for anything; he has ceased to be an object of solicitude and the result is that he feels minimized, dwarfed, swamped. He loses his sense of individuality and responsibility. He can't go it alone because he has never gone or been considered alone. He waits to be led because he has always been in leading strings. He rushes when the multitude makes a break because he has always been held in place and put in motion by others. This study will help to get us back to the individual; to a proper recognition of the importance of personality.

To make these estimates of the children of the greatest value they must be based on a study of the child in the home, on the street, in public assemblies, on the playground and in the schoolroom. He must be studied when he is under restraint and when he is free to follow his whims, fancies, impulses and the commands of his will. These studies should include his work and his play; when he acts consciously and when he is unconscious of what he does; when actuated by worthy and by unworthy motives; when the act is spontaneous and when he plays a role; when he rules and when he is ruled; when he is under surveillance and when he is free to show all he is; when he is excited by passion or enthusiasm and when he is in his normal condition; when the saint holds the reins and when the sinner does the driving. The teacher must distinguish between the working off of an excess of nervous force and willfulness. This study will help her to discover when he goes wrong because of his talents and when because of his deficiencies, when he acts from fear or timidity and when from insolence. This knowledge will aid her in deciding what remedies are needed and when and how to apply them. When she has learned why a boy is refractory she is in the best position to help him to reform. When she knows why a boy is good she has the clearest and best ideas as to how to keep him interested in being the best within his power.

Fortunately the intelligent study of one child helps wonderfully in the study of all children. It is hardly less than astonishing how much of an expert one becomes in a short time if thought is put into the work. Things that were before unnoticed will stand out in clear relief; facts that have been before our eyes for years and not seen, will press themselves upon our attention. The child becomes an object of interest, a subject for study. He increases in importance. He has a new value. He becomes almost a fascination in our eagerness to know him.

But this work must be done with infinite patience, sympathy and love for the child studied. The old relation of master and subject must cease. The better relation of companions must take its place. When this work is well done, schoolrooms will no longer be places where children are herded but centers of growth and blessing.

The thoughtful teacher will come to realize that it is the largest part of her work to build, not repress. She will begin to appreciate the fact that she must discover power, stimulate action and direct them in right lines.

To help in this better way of helping the boys and girls the outlines given above have been prepared for the use of teachers.

W. W. Stetson,

Maine. *State Superintendent.*

As a rule, teachers in primary schools should assume that their pupils' energies are sufficiently taxed during school hours and leave the remainder of the day free from imposed scholastic duties. Time should be left for free play and rest. Let the little ones have the full benefit of out-of-door enjoyment.

HISTORY AND CLASSICS OF EDUCATION.

Sir Joshua Fitch on Pestalozzi.

THERE are two or three features of Pestalozzi's teaching which have always appeared to me among the most valuable, and which, in my opinion, ought never to be permitted to become outworn or obsolete. The first of these is his insistence on the necessity of training for the senses and for the physical powers, as well as the memory and the understanding. The old doctrine, ***nihil in intellectu, quod non prius in sensu***, was with him more than an academic proposition; it was the key to his practical methods. It dominated much of what is called his system. Hence all the simple devices by which he led children to see clearly, to exercise the faculty of observation, to draw, to touch, to handle, to discover, to imitate, to invent. He did not regard the use of printed words and letters as the true beginning of all knowledge, but he relied rather on intuition, the development of faculty, the rousing of curiosity, as the first objects to be achieved in the education of a child. Now here is a principle of perennial importance one of which we do not yet see all the practical applications, but one which will guide us in coming to right conclusions in respect, for example, to the place which manual training ought to hold as part of a scheme of liberal education, as well as to other yet unsolved problems of our own time. Raumer, one of his affectionate disciples, said of him, "He compelled the scholastic world to revise the whole of their task, to reflect on the nature and destiny of man, and on the proper ways of leading him from his youth towards that destiny." This was, in fact, the main purpose of Pestalozzi's life. He sought to find for himself and to help others to find, a basis for his plans of education, in a fresher study of nature and experience.

Oliver Wendell Holmes once said of Emerson that he was an iconoclast without the hammer, that the idols he sought to dethrone he took down from their pedestals so gently and reverently that he seemed more like one performing an act of worship. In some sense this is true of Pestalozzi. He, too, was an iconoclast, but he went about his work in a very different spirit from that which animated Rousseau, to whom he was in other respects so nearly akin. Compare Rousseau's "Emile" with Pestalozzi's "Leonard and Gertrude," and you will be conscious of a difference of tone as well as of substance. There is in Pestalozzi little or no denunciation, none of the fierce revolt against established notions and usages which characterized Rousseau; only an earnest appeal to parents and teachers—all the more effectual because so restrained and modest—to follow books and traditions less, and to study nature and childhood more.

You cannot, in any survey of Pestalozzi's career, overlook the deep religiousness of his nature. To him the teacher's office was a sacred—indeed a priestly— function. The moral purpose of a school was its highest purpose. No teacher or writer on education has ever more strongly emphasized the truth that character is more important even than knowledge, that knowledge is only a means to the higher end, not itself an end; and that the first business of a school as of a home, is not so much to give formal religious lessons as to provide an atmosphere of love and purity and goodness, in which all that is gracious and beautiful in a child's character may have room to grow. "Man," he said in one of his latest writings, the "Swan Song," "develops the fundamental elements of his moral life, —his love and faith—by the exercise of love and faith, just as those of his intellectual life—his thought and reflection— by the exercise of thought, and those of his practical or industrial life—the power of his organs and muscles—by the exercise of those powers. Everywhere you find him insisting on the need of spontaneous activity, and on the fact that the learner is not passively to receive and to reproduce the opinions or the emotions of other people, but to be a free and living agent. School could do nothing better than to place him in conditions favorable to the full expansion of whatever is best in his intellectual powers and his moral and spiritual aspirations.

Perhaps the most notable feature of Pestalozzi's system was his earnest and constant protest against verbalism and teaching by rote. He was very sensible of the importance of language culture, and of the right use of words, but he desired in all cases to make the word or the technical term come *after* some knowledge of the subject or the distinction which the word represented, and not before it or independently of it. In particular, he warred against the use of formularies and catechisms. The habit of putting printed questions and answers in a book to be committed to memory seemed to him deadening and mischievous, and, indeed, destructive to any real and vital communication between teacher and taught. Happily his opinions on this subject have been generally accepted by all good modern teachers.

There is no finality in the system of Pestalozzi. He was a pioneer only. He saw, with intense clearness, some fundamental truths, but he could not foresee all the practical applications of those truths. His simple life's experience in Germany and Switzerland did not qualify him to understand thoroly the needs of great and crowded towns, or to take a full view of the larger educational horizon which we are able to survey now. Had he known London, or New York, or Chicago, their new intellectual and industrial conditions would certainly have suggested to him new and fruitful devices for meeting them. It is for us, who have this experience, to adapt what is best in his teaching to the changed circumstances and needs of our own time.

We must remember that it is just as possible for Pestalozzianism, as for any other system, to lose its vitalizing power, to be stiffened into formulas, and to become wooden, pedantic and uninspiring. I have had occasion, during my official life, to know how easy it is to use all the phraseology of Pestalozzi, to imitate his object lessons, and to accept his technique and his theories, and yet to be hopelessly uninfluenced by the spirit of the master, and to fall into unintelligent and unsympathetic routine. The true way to guard against this danger is to perpetuate his spirit as well as his methods, to re-state, from time to time, the principles he advocated, to view them with fresh eyes in the light of later experience, and to seek for the best means of applying and illustrating them.

Emerson's Influence in Education.

UPON educational ideals in America Emerson's influence has been penetrating and pervasive. It has been a solvent, but also an inspiration. This double quality was the secret of its power. Emerson combined with his fearless abandonment of many of the old doctrines a profound belief in the spiritual forces which manifest themselves in national and individual life. In all that he wrote there was a reality which deeply moves many readers. His work has the beauty of truthfulness. As Clarendon said of Falkland, "he was so severe an advocate of truth that he could as easily have given himself leave to steal as to dissemble." But it is not on every one that Emerson's influence gains its hold. Some words in which he described Plato's attitude towards his hearers apply to his own work:

"I have no system. I cannot be answerable for you. You will be what you must. If there is love between us, our intercourse will be profitable; if not, your time is lost and you will only annoy me. I shall seem to you stupid and the reputation I have false. Quite above us, beyond the will of you or me, is this secret affinity or repulsion laid. All my good is magnetic, and I educate, not by lessons, but by going about my business."

Emerson, however, has had extraordinary influence on some of the men who have been leaders in the new movement in American education. The elective system of studies, which under President Eliot's authority has worked so great a change in the programs of American universities and secondary schools, is a practical outcome of Emerson's teaching. And this characteristically American theory of school curricula is beginning to prevail in Europe as well. It is a disintegrating force. It breaks up the solid masses of the traditional curricula of the Old World just as the Atlantic waves break up the rocks on the West Coast of Shetland. It challenges the old conception of "general culture" which has had so powerful an influence on the plan of studies in the secondary schools of Germany. It asserts the claims of new forms of culture, of handwork as well as head work. It assails the privilege of classical education as we know it in our English public schools and as it has been known in the most famous secondary schools of France. It takes as the unit of organization a particular study like Latin or algebra, instead of a traditional combination of studies. It aims at offering such a variety of possible groups of subjects of instruction as to meet the different intellectual needs of different types of ability not less than the different practical requirements of different callings. Its strength lies in its faculty of swift readjustment to changing demands, and in its power to meet a bewildering variety of needs. Its weakness lies in its lack of the steadying force of an authoritative discipline, and in its preferring liveliness and brisk variety to steady-going thoroness on conservative lines. But the hour has struck for change. The American influences are penetrating every year more deeply into the heart of European education. And, wherever they penetrate, they remind us of Emerson.

He came at a time when the Calvinism which had annealed the character of New England had lost its intellectual appositeness. Every great system of doctrine builds up and buttresses itself with an appropriate system of education, and particularly of secondary and higher education. The Calvinism of New England had its own institutions of culture. But their ideals of learning, and consequently their methods of instruction, had begun to flag in consequence of the decay of the philosophical system which had been the cause of their existence and the real source of their power. Emerson was one of those who proclaimed America's need for a new educational ideal. Classical culture had never really flourished beyond the Atlantic. The revival of Greek ideals of life and learning, which played so great a part in the making of modern Germany, found no counterpart in the great movement for reform in American education. Emerson had "the prophesying heart," and foretold the great change which was coming over men's ideas about culture.

"We are students of words [he wrote in 1844]; we cannot use our hands or our legs or our eyes or our arms. . . The lessons of science should be experimental. . . Once (say two centuries ago) Latin and Greek had a strict relation to all the science and culture there was in Europe, and the Mathematics had a momentary importance at some era of activity in physical science. These things became stereotyped as education, as the manner of men is. But the Good Spirit never cared for the colleges, and, tho all men and boys were now drilled in Latin, Greek, and Mathematics, it had quite left these shells high and dry on the beach. . But in a hundred high schools and colleges this warfare against common sense goes on. Four, or six, or ten years the pupil is parsing Greek and Latin, and as soon as he leaves the University he shuts those books for the last time. Some thousands of young men are graduated at our colleges in this country every year, and the persons who at forty years still read Greek can all be counted on your hand. I never met with ten. Four or five persons I have met who read Plato. Is not this absurd, that the whole of the liberal talent of this country should be directed in its best years on studies which lead to nothing?"

This appeal against what Emerson called "the wonderful drowsiness of usage" led, in due time, to remarkable changes. He read the thoughts of his fellow-countrymen like a book, and divined their new purpose. He understood their "wish to cast aside the superfluous and to arrive at short methods." Nothing is more typical of educational effort in America to-day than the desire to cut away all the non-essentials and to devise a course of instruction and training which shall combine the minimum of time and effort with the maxim of intellectual efficiency and alertness.

But Calvinism comprises three elements, each of which is essential to its power. These are faith, democracy, and discipline. Emerson's extraordinary influence was due to the fact that, tho he came at a time when the older form of Calvinistic discipline had become obsolete, and when his protests against it were therefore appropriate, his teaching was inspired by an intense (tho, according to older standards, an unconventional) faith, and by an unflinching belief in democracy. And these are among the characteristics of American education as it exists to-day. Secular in form, it is inspired by religious sentiment of a sanguine and optimistic kind. From top to bottom it is heartily democratic; and it lays much more stress on interest than on discipline. From discipline, as discipline was conceived in the New England schools under the old dispensation, America has taken a long holiday. Emerson was one of those who found that the old schoolmaster was dead and that the doors were open, and who proclaimed the fact that the time for the holiday had come. But the signs multiply that the fathers of New England were not wrong in their belief that self-applied discipline of a stern and searching kind is a necessary safeguard for the well-being of pure democracy. The discipline which they had set up, and which served their purpose for generations, had indeed become obsolete. It was entangled with theories and with institutions which were out of joint with the new knowledge and needs of the time. A period of liberating criticism and of destruction of old forms had to come. Emerson helped to bring it on, and to make its work thoro. But the need for discipline as well in education as in other departments of the national life, persisted. Emerson was so far the child of his time that he did not appreciate the depth and the permanence of this need. His allusion to mathematics, which I have quoted above, shows how little, at that time, he was in the mood to appreciate the real place of mathematical discipline in a scientific education. His system, whether we apply it to education or to the other problems of civic life, fails us a little when we want a discipline which can be effectively imposed on those who are unwilling voluntarily to discipline themselves. It presupposes as normal a degree of individual energy and self control which is really exceptional. It slurs over the difficulties caused by the fact that great numbers of people misuse freedom and need the upholding discipline of a strict public opinion and of social control. But when we have said this we have said the worst of it. Emerson is all the better when taken with a pinch of Calvin. But what in his teaching is good for all times and for all seasons is its brave hopefulness, its reliance on spiritual instead of on material forces, its frankness and sincerity of thought, its dislike of pretension, its belief in individuality of character, its insight into the heroism which can inspire a man to accomplish a high task in obscurity, its appeal to our self-reliance, its concern for character rather than for mere agility of mind. All these things are of great moment in education and large is our debt to Emerson for having laid such stress upon them. Much that is most vigorous in the educational life of the English-speaking peoples at the present time is Emersonian unawares.

"Insist on yourself; never imitate. Your own gift you can present every moment with the cumulative effect of a whole life's cultivation; but of the adopted talent of another you have only an extemporaneous half-possession. . . Our spontaneous action is always the best. . . If we consider what persons have stimulated and profited by us, we shall perceive the superiority of the spontaneous or intuitive principle over the arithmetical or logical. The first contains the second, but virtual and latent. . . . All our progress is an unfolding like the vegetable bud. You first have an instinct, then an opinion, then a knowledge, as the plant has root, bud, and fruit. Trust the instinct to the end, tho you can render no reason. It is vain to hurry it. By trusting to the end, it shall ripen into truth, and you shall know why you believe."

Who has more clearly declared than Emerson, in these words, the secrecy and the slowness of all true development of thought and character? Yet does he not overstep the line of prudence when he disparages the value of traditional courses of training? Does he not underrate their use in teaching us accuracy, in giving us an idea of standard, in pricking the bubble of our vanity, in curbing our desultoriness, and in reminding us of what our elders and our contemporaries expect of us and will value in us, as distinct from what we ourselves think that they ought to expect of us and ought to value? Man may be the measure of all things, but each individual man is not necessarily the best measure of what his world wants from him. But Emerson, like all great writers, is bravely inconsistent, and recognizes the two faces of every truth. Thus, with more than a touch of exaggeration (as of protesting against what there was of error in his own common doctrine), he says in another essay:

"Under the oldest, mouldiest conventions, a man of native force prospers just as well as in the newest world, and that by skill of handling and treatment. He can take hold anywhere. . . I settle myself ever the firmer in the creed that we should do broad justice where we are, by whomsoever we deal with, accepting our actual companions and circumstances, however humble or odious, as the mystic officials to whom the universe has delegated its whole pleasure for us."

Here Emerson the individualist pays homage to the doctrine which it was his life's duty to defy. Yet do we not like him the better for admitting the truth of both sides?

Emerson despised that kind of culture which "ends in headache." He scorned that kind of scholar who is "reckless of physical laws, self-indulgent, becomes presently unfortunate, querulous—a thorn to himself and to others; yesterday radiant with the light of an ideal world in which he lives, the first of men, and now oppressed by want and by sickness, for which he must thank himself." To whatever else education may lead, let us, he would say, not applaud it when it leads to "the tragedy of imprudent genius struggling for years with paltry pecuniary difficulties, at last sinking—chilled, exhausted, and fruitless—like a giant slaughtered by pins." He would have the schools set before them a virile pattern—the example of men who wrought at their task, whatever it was, with all their power. "I admire men of all classes—those who stand for facts and for thoughts. I like rough and smooth." But the highest tasks are the spiritual tasks.

"The day never shines in which the element of heroism may not work. The circumstances of man, we say, are historically somewhat better in this country [America] and at this hour than perhaps ever before. More freedom exists for culture. It will not now run against an axe at the first step out of the beaten track of opinion. But whoso is heroic will always find crises to try his edge. . . . The unremitting retention of simple and high sentiments in obscure duties is hardening the character to that temper which will work with honor, if need be, in the tumult or on the scaffold. Whatever outrages have happened to men may befall a man again; and *very easily in a republic, if there appear any signs of a decay of religion.*"

Into English education Emerson's influence has come in two waves. The first broke on us about forty years ago. It was one of the causes which led up to Mr. Forster's Elementary Education Act of 1870. No one can read the newspapers and magazines of the critical years before 1870 without being struck by the importance attached by educational reformers in Great Britain to the example and experience of New England. Those of our educational leaders who had faith in democracy, and therefore wanted to give it the best educational opportunities (as contrasted with those other guides, like Mr. Lowe, who had unfaith in democracy, and therefore wanted to make the best of a bad business by means of schools) were inspired, more than they knew, by the influence of Emerson. The second wave of Emerson's influence is breaking over us now. Our minds are open to it for the same reasons that they are open to the influence of Wordsworth. But English educational ideals are being influenced at the present time not so much by Emerson's actual writings as by the Emersonian tendencies which have realized themselves in American school curricula and in the American belief in education. Much that Emerson wrote was more applicable to American needs than to English. For good or for evil, we English (as distinct from so many of our Scotch and Welsh neighbors) have not, as a rule, taken kindly to Calvinism. In one sense, we have never felt ourselves good enough to rise in it; in another, we have never felt ourselves bad enough to need it. We had not therefore the same need to be rescued from its clutches.

But Emerson had much to say which we greatly needed to hear. He believed in democracy, and most Englishmen believe in it far too little. He distrusted the conventional and external forms of rank and merit, while most Englishmen are prone to attach too much importance to them. But he most appeals to us because he puts into words which glow with sincerity that liking for individuality of character, that respect for men who do things instead of merely talking about them, and that mystical belief in spiritual forces which we cherish at heart, tho we are often sadly untrue to our real convictions. Emerson was an American to his heart's core, but he preached the old English doctrine, perhaps with special emphasis on those points which he thought his fellow-countrymen might be prone to forget. And his writings, alike in their direct and indirect influence on the educational ideals of the two countries, have done not a little to make England and New England realize how much, in spite of their differences, it means to have been digged out of the same pit. MICHAEL E. SADLER.

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It is important that school buildings and school grounds should be planned and decorated so as to serve as effective agencies for educating not only the children, but the people as a whole, in matters of taste. The school is becoming more and more a community center, and its larger opportunities impose new obligations. School buildings should be attractive as well as healthful, and the adjoining grounds should be laid out and planned with appropriateness and beauty.—Extract from the "Declaration of Principles" of the National Educational Association, 1903.

Froebel Concerning "the School."

SCHOOL is the endeavor to bring to the pupil's knowledge and consciousness the being or inner life of objects and of himself; the intimate relations of objects, one with another; with man the boy himself; and with the living basis and conscious unity of all things, God.

The boy, when he enters school, leaves behind the merely outward view of objects, and enters upon a higher intellectual view. This stepping of the child from an outward superficial view of things to the inward view which leads to knowledge, insight, and consciousness; from the home-order into the higher world-order; makes the boy into a scholar, constitutes school. School is such, not in virtue of the variety of subjects taught there; but of its intellectual atmosphere which animates the whole, and in which all things move.

The faith and trust, the hope and presentiment, with which the child enters school work wonders. For it comes with childlike faith, and quiet hope; with a dim presentiment: "Here thou wilt learn what cannot be taught thee outside; here thou wilt get food for thy mind and soul, while outside there is only food for the body; *here*"—it is literally so in the child's hope and anticipation—"are food and drink which quench hunger and thirst."

Let not the wilfulness, the love of mischief, which boys show at school, be put forward in contradiction of the above. Thru the very effect of school, thru that growth of inward force which is the aim and purpose of school, a boy feels himself freer, and moves more freely. A genuine schoolboy ought not to be listless or lazy, but fresh and lively; vigorous in soul and body; and thus, when following his instinct, too far, so as even to become (what elders call) mischievous, the schoolboy scarcely thinks of any harm ensuing to others.

Subjects of Teaching.

What then is the school to teach? In what is man, the boy, to be instructed?

Thru language, the school—instruction—should lead the boy to a *threefold* knowledge, which again is one: (1) to the *knowledge of himself* in all circumstances, and thus to a knowledge of man in general, in his being and relations; (2) to the *knowledge of God*, the constant condition, the eternal foundation and source of all being; and (3) to the *knowledge of Nature*—the material world, as issuing from, and conditioned by, the eternally spiritual. Instruction, *i. e.*, school, is to lead man to a life and conduct, in complete accord with that threefold, yet single, knowledge. Man—as boy—is to be led by school, in the way of that knowledge threefold yet one, from inclination to choice, from activity of will to perseverance, thus steadily onward till he reach his destination, his calling, and attain to earthly perfection.

I.—INSTRUCTION IN RELIGION.

Religion is not something fixed, but an eternally advancing endeavor to get, and ever hold fast, union with God.

Religious Instruction aims to animate, strengthen, and clear, our perceptions of a spiritual self—our soul, intellect, and heart—as resting in, and proceeding from, God; to make known the faculties of soul, intellect, and heart as depending on God; to show God's necessary being and operation; to exhibit the relation of God to man, as it announces itself in each one's own heart and life, and in all existence; notably in the life and history of mankind, as the Sacred Books declare it to us. *Religious Instruction* applies this knowledge to all life; and specially, in and to each one's own life; applies it to the development and improvement of mankind, to show the divine in the human; and specially to the knowing and doing of man's duty, that is, what, being man, he must care for; and finally, to exhibit ways of satisfying this endeavor to live in union with God; and means of restoring this union when disturbed.

Religious Instruction therefore, always pre-supposes some degree of Religious Feeling, however weak, however unconscious. Instruction can only be fruitful,—touching and working on the life,—in so far, as a real, however slight and rudimentary, *sense* of religion is ready for it. Were it possible for a human being to exist wholly without religious sensibility, no means could give it. Parents who permit their children to grow up to school-age without any endeavor to nourish religious feeling would do well to think on this.

It is and for ever will be true; the divinely human is mirrored in purely human relations, especially in the parental and spiritual; and in those pure relations of man to man we recognize God's relation to man and man's relation to God: we attain to the sight of them.

[The ensuing section, on the religion of Jesus, is given with the completest exactness which this editor finds possible. It is a confession of faith, made in the zenith of his powers by the teacher, whose dying words, some thirty years later, were: "I am a Christian man."]

When the human being knows, consciously and clearly, that his spiritual self came forth from God, was born in and from God, was originally one with God; knows that he is in constant dependence on God, and in uninterrupted communion with God; when in this eternally necessary dependence of himself on God—in the clearness of his recognition of it, and in the steadiness and zeal wherewith he acts on this knowledge—his conduct grows to be in complete unison with this knowledge and conviction; when he knows his salvation, his peace, his joy, his destiny, his life, to be in this [conscious dependence and communion], when, in true and thoroly human language, he knows God to be his Father, himself to be a child of God, and lives in accordance with this knowledge; *this* is the Christian religion, the religion of Jesus.

Therefore, the only key to the knowledge and experience of divinely human relations—the relation of God to man, of man to God—is understanding of spiritually human, true fatherly and childlike relations. Only in so far as we enter into purely spiritual intimately human relations, and live in accordance with them to the smallest detail, shall we attain to complete knowledge of divinely human relations, and feel them so deeply and vividly that every longing of our being will be satisfied, at least recognized, and become, instead of a never-fulfilled yearning, a self-rewarding endeavor. We do not yet know, we do not even guess, what is yet so near us; one with our own life, with our own self. We do not even live up to our own professions. We profess to be sons of God, and are not yet true children of our own parents. God is said to be our Father, and we are far from being true fathers of our own children; we aim to see the Divine, and we leave uncared for the human, which would lead us to it.

II.—STUDY OF NATURE.

What religion says and affirms, *that* nature shows and presents; what is taught by meditation upon God, is confirmed by nature; what follows from the consideration of the inward is made known by the consideration of the outward; what religion asks for, nature fulfils. For nature, and all that exists, is God's annunciation, revelation of himself; whatever *is* has its foundation in the revelation of God.

As in a work of human art there dwells no material part of the human spirit of its artist, yet a true art-work bears in it the whole mind of the artist in such a sense, that the artist lives in it, speaks out of it, so as to inspire others, to awaken, animate, develop, form, his spirit in them: as the human spirit is related to the work which it produces, so God's spirit is related to nature, and all that exists. God's spirit rests in nature, lives and works in nature, expresses itself in nature, communicates itself by nature; yet nature is not the body of God.

Therefore from boyhood man should be made intimately acquainted with nature; not in her particulars, the forms of her phenomena only, but in the spirit of God as it lives and moves in nature. The boy feels this deeply, and desires it; therefore nothing so binds together educator and pupils, whose feelings are unspoiled, as their being occupied in common with nature, with natural objects. At least once a week, teachers should go out with each division of their school, into the country; not as may be sometimes seen, driving them like a flock of sheep, nor leading them like a company of soldiers; but going with them like a father among his sons, or a brother with his brothers; bringing closer to their sight and attention whatever of nature the season presents.

School-masters who live in a village, or in the country, should not reply: "My school-children are all day long in the open air, and run about in it whether I help them or not." True! they run about, but they do not *live* in the open air, they do not live with nature. Children who are continually running about in the open air, may yet see, guess, and feel, nothing of nature's beauties and their operation on the human mind. Just as happens to those who have grown up in very beautiful scenery; they often feel nothing of its beauty and influence [till some stranger, perhaps, points them out].

III.—STUDY OF FORMS.

Thus the being and operation of nature as a whole; nature, as an image of God; as the word of God, communicating and wakening the spirit of God as a whole; thus nature meets, and has always met, man's *inward* contemplation. But to *outward* contemplation she offers herself otherwise. To the senses she appears to be a multiplicity of particulars, differing one from another, without clear, intimate, living connexion; items, details, of which each has its own form, each its proper course of development, its peculiar destiny and purpose. To the outward observation there is no proof that all these externally separate details are originally connected members of a great living organism; a whole intimately and spiritually united: that nature herself is such a whole.

In order to perceive the all-pervading reign of law in nature, her unity, technical terms are not needed, either for natural objects or the qualities of such. But simple, clear, firm perception of these objects and qualities is needed, with distinct names for them [however homely].

The matter is to introduce the boy to the objects themselves; that he may learn the qualities which they put forth and express; that he may know the object to be that identical thing which, in its form and so forth, it declares itself to be. The one thing needful is clear sight, and recognition of the thing itself. Give the object its local name; or if you know none, then any name that occurs; best of all, a descriptive name, even tho rather long, until by-and-by you come upon the accepted name.

From every point of life, from every object of nature, there is a way to God. Only hold fast the goal, and steadily keep the way.

Let the boy's eye and the boy's sense lead you; and know for your comfort, simple, natural boys have no patience with half truths and false pretences. Follow, then, quietly and thoughtfully, their questions; these will teach you and them; for these questions come from the human spirit, still child-like. When children ask questions which you cannot answer, fear not to give one of two replies: "I know not; for it cannot be known": or "I know not; others know, and you may." Take care never to speak as tho your own boundaries were also the limits of possible human knowledge.

IV.—MATHEMATICS.

Mathematics stands forth as that which unites, mediates between, man and nature, inner- and outer-world, thought and perception [as no other subject of study does].

As phenomenon of the inward and of the outward world, she belongs alike to man and to nature. Issuing from pure intellect, from the simple laws of thought; being a visible expression of these laws, and of thought itself; she finds, already existing in the material world outside her, phenomena, combinations, shapes, forms, that are all necessarily governed by these laws; yet they meet her, in nature, as wholly independent of her, and of human intellect and thought. Man thus, in his intellect, in the laws of his thought, finds *that* very nature, with all the variety of her phenomena, which had grown up independently of him in the outer-world.

Education of man, without mathematics, without at least thoro knowledge of number—whereto, as necessary condition, whatever study of form and size is practicable, will be added as occasion serves—is no better than unsubstantial patch- and rag-work, and [instruction, thus essentially defective, far from helping] puts insuperable obstacles in the way of the training and development whereto man is destined and called. For Human Intellect is as inseparable from Mathematics as Human Heart is from Religion.

HISTORY OF GREEK ART.

Greek Art—Second Period. (Athens.)

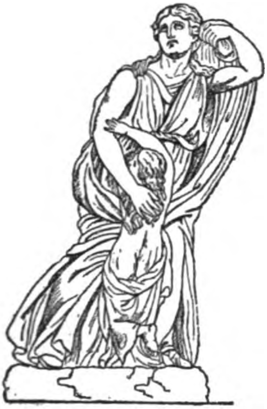
THE SCULPTURES OF SCOPAS, PRAXITELES, AND LYSIPPUS.

THE days of Pericles are past. We find Athens still in the highest artistic and scientific activity; but the spirit of its inhabitants is changed. The Peloponnesian war has roused men's passions. The faith in the gods, long since buried by the learned, is vanishing in wider circles. The moral principle of moderation has grown weaker. If we go into the theater we find that the poet Euripides, who was formerly condemned for his disregard of morality and of the gods, is now held in honor. Endowed with no less talent than the elder dramatists, he is in some respects more intelligible to us moderns. As Mrs. Browning writes:—

"Our Euripides is human,
  With his droppings of warm tears,
And his touching of things common,
  Till they rise and touch the spheres."

Another poet, Aristophanes, attempted with the scourge of wit to call the attention of his contemporaries to the shallowness of this poet, and to other weaknesses of the times. He held up to ridicule the moral and political blindness of the Greeks, showed the Athenians their reflection in a faithful mirror, and thought to lead them back into the right path. But he did not succeed.

The spirit of the time shows itself in the subjects chosen for works of art. The group representing the destruction of the children of Niobe by Apollo and Artemis no longer exists, but the figures copied from it which are collected at Florence are sufficient to make us feel the greatness and originality of this extraordinary work. Niobe, the daughter of Tantalus, in her maternal pride mocked Leto, and declared that she, the mother of fourteen beautiful children, was more worthy of worship than the goddess who had but two. The children of Leto avenged this insult to their mother by slaying Niobe's children before her eyes. Niobe in the center of the group is clasping her youngest child to her bosom in the vain hope of saving her, while at the same time she seems trying to cover her face and hide from her eyes the heart-rending tragedy that is being enacted before them. Her figure is bowed, but not contorted, with despair. Her face is raised as if in prayer, and seems to express the whole depth of her sorrow; but not without pride and dignity in the consciousness that such terrible suffering was undeserved. The resignation of her daughter mortally wounded at her side affords a mitigating contrast, and these, like the other groups of the children who are hurrying towards their mother, display fear, pain, and fortitude in various degrees, but all with that dignity and moderation that raises the work to the highest tragic level. The original was probably the work of Scopas, and contrasts both by its subject and its pathos with the perfect tranquillity of the school of Pheidias.



Niobe (Florence, Uffizi).

Niobe.

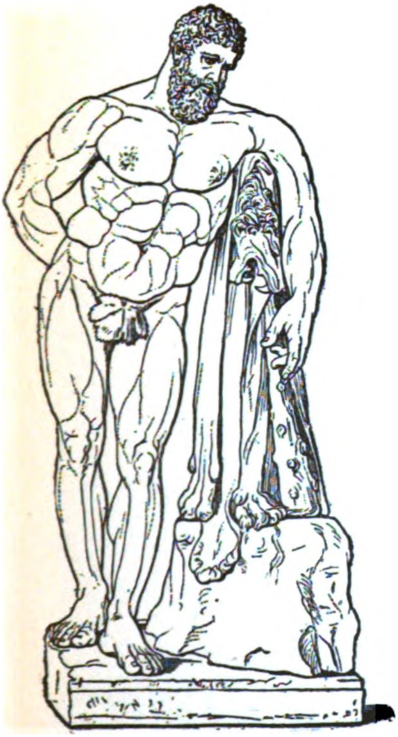
In a temple surrounded by beautiful trees and flowers we see the goddess of love as she rises the embodiment of the spirit of nature from the sea foam. In naked beauty, with tender eyes, and a soft smile on her parted lips, she captivated all beholders. The Medici Venus now at Florence is supposed to be a copy of this masterpiece. This was the work of Praxiteles. A head of Eros in the Vatican—by many supposed to be the genius of death—is generally regarded as his ideal of youthful beauty. The thoughtful downcast look, the beauty as of an opening bud, form a complete contrast to the mischievous little Puck with arrow and bow, who did service for the love-god in later times. If we were to judge of Praxiteles from these indications, we should be right in attributing to his work a grace bordering on effeminacy. The great discovery made during the German explorations at Olympia has however entirely contradicted this judgment. The Hermes bearing the infant Dionysus is an authentic work from the hand of Praxiteles, seen and described by Pausanias, and discovered on the very spot at the entrance of the Heraion where Pausanias saw it. The manly beauty and grace of this figure, the perfection of the head, and the loving tender expression with which he looks at the child, surpass any other statue of ancient or modern times. It is indeed the only great work of Greek sculpture of the authorship of which we have certain knowledge. To the same master are attributed a wonderfully graceful young Apollo on the point of killing a lizard, and a satyr leaning against the trunk of a tree with a flute in his hand, and a delicate smile on his face. He is also said to have delineated the labors of Hercules grandly at Thebes.

Replica of the Aphrodite of Cnidus by Praxiteles. (Munich, Glyptothek).

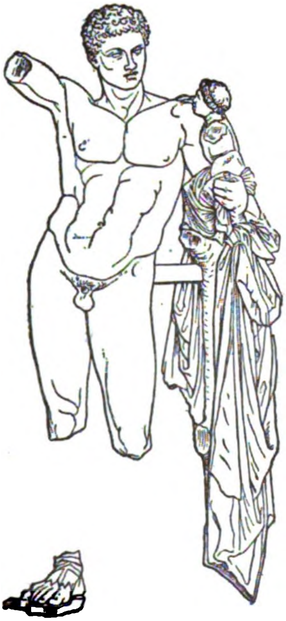
Venus de Medici.

This latter hero was treated by Lysippus, a famous artist of the Peloponnesus. The so-called Farnese Hercules, at Naples, is supposed to be a later copy of his work. The colossal figure expresses strength of muscle and movement, while the relatively small head looks sadly on the ground with an indication of severe labor and internal strife. A similar characteristic is noticeable in the existing portraits of Alexander the Great. The attitude is overstrained and affected, and the muscular development excessive.

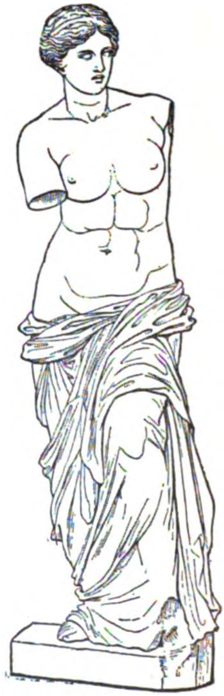
One figure there is that we have not yet looked at—the Venus of Melos, now in the Louvre—a figure so pure and womanly, so noble and divine, that it has been a mystery how anything so grand and dignified could have been produced after the days of Pheidias. The discovery of the Olympian Hermes has now shown that Praxiteles did conceive a type of manly beauty worthy to stand beside this perfect embodiment of true womanhood. Her left foot is raised on a slight elevation, and the left knee turned inwards, she is draped from the hips downward. Her two arms are unfortunately lost, and it is therefore improbable that the question of her atti-



Farnese Hercules.
(Naples Museum.)



The Hermes of Praxiteles.
(Paris, Louvre.)



Aphrodite of Melos.
(Olympia.)

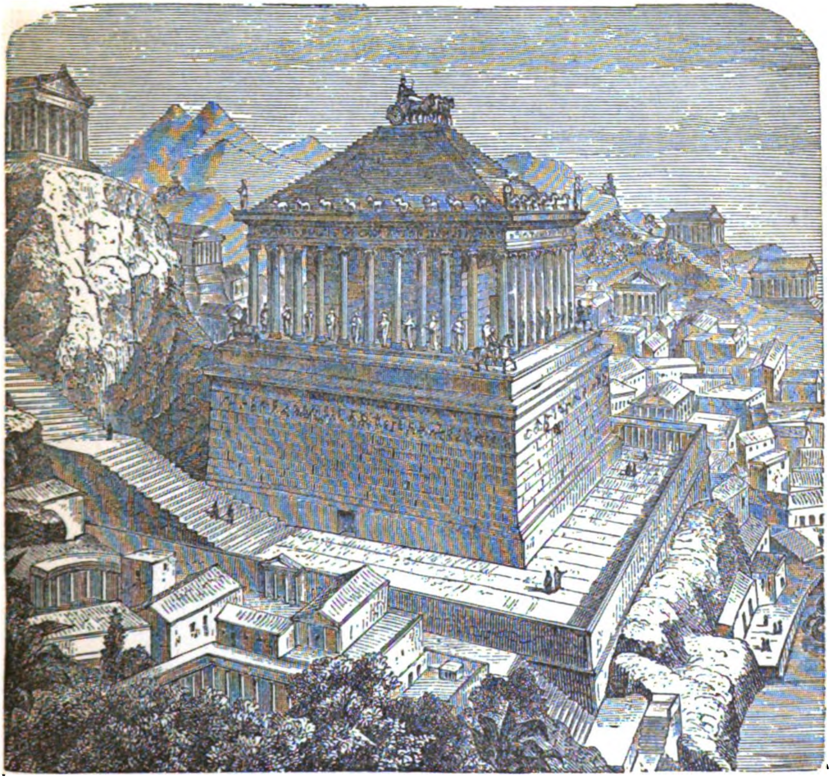
tude, her action, and her attribution, will ever be finally settled. She is unlike the known types of Aphrodite, in the fulness and strength of her form, in her attitude, and in her drapery; but more than all in her maidenly pride and dignity. In comparison with the Venus de Medici, she is the heavenly Aphrodite, the offspring of Uranos, and the latter the earthly Aphrodite, the daughter of Zeus and Dione. In pose and drapery she resembles the Roman figures of Victory, and the only restoration of her arms that can be tolerated is as Victory holding with her left hand a shield, which rests on her knee, and inscribing the names of victors upon it with her right. A recent archaeologist has boldly taken up the thesis that this is the identical statue from the temple of Nike Apteros on the Acropolis at Athens.

Head of Hera in the Villa Ludovis.

Art in the Greek Colonies of Asia.

THE MAUSOLEUM AT HALICARNASSUS.—PAINTING OF THE IONIAN AND SIKONYAN SCHOOLS.—THE COLOSSUS OF RHODES.—SCULPTURE.

We now turn our steps to the colonies on the coast of Asia Minor, which formed so important a part of Hellas, and spread Greek culture over Asia, while their connection with their earlier home was kept up by the panhellenic games and festivals. The famous tomb raised at Halicarnassus by Artemisia to her husband, a Persian satrap, stands before us. Upon a lofty podium which contained the sepulchral chamber, stands a peripteral Ionic temple. The temple is surmounted by a stepped pyramid, the truncated summit of which supports a colossal quadriga, containing the figures of Artemisia and her husband. The horses of the chariot and the lions which stand round the cornice are of distinctly Asiatic character, and the latter have all the lifelike character of Assyrian lions. The most beautiful of the remains of the Mausoleum is the zoophorus of the temple—probably there was a second running round the substructure—it represents battles with the Amazons, and is said to be partly by Scopas; it is vigorous and beautiful in conception, but the execution is inferior. It shows moreover a greater degree of mental emotion in the expression of the eyes and



The Mausoleum of Halicarnassus (Restoration).

face than is usually to be found in the work of that early period. Some important remains of the Mausoleum were discovered by Mr. Newton, in 1856-7, and are now in the British Museum; these include a great part of the frieze, portions of all parts of the structure, and the figures of Mausolus and Artemisia from the surmounting car which have been reconstructed from innumerable fragments and exemplify the change in the direction of realism which took place when Greek art passed over into Asia.

The grandeur of the temple of Artemis, at Ephesus, is known to us by description, and the recent excavations, which have excited such general interest, have confirmed the report. In size far exceeding other Greek temples, the richness of its sculptured columns, a few drums of which have been brought to England, must have given an effect of wonderful luxuriant beauty. Eratostratus burned it to immortalize his name, and the Greeks of Asia made it a point of honor to restore it in all its original splendor.

Ephesus was the home of the painter Parrhasius, and the adopted home of Zeuxis. To describe the paintings of these artists and of the rival Sikyonic school, as we have only the descriptions of ancient writers and such illustration as we can get from the remains of Roman wall-painting at Pompeii. The pictures of Parrhasius, unlike those of Polygnotus; were chiefly on panel, not on fresco. Of his Helen, we are told that the most beautiful maidens of Crotona stood as models to him. But his aim seems not to have been so lofty as that of Polygnotus; he sought beauty of detail and excellence of composition rather than grand representations of character. Aristotle says that his works were wanting in ethic significance. He made great technical advances in chiaroscuro and illusive effects, and we are told that the grapes he painted were pecked at by the birds. Zeuxis, notwithstanding his vanity which was as great as his skill, had to acknowledge a superior in Parrhasius, who also painted both historical and genre pictures. The latter showed great skill of facial expression, as in the picture of the Demos, in which he represented all the passions and characteristics of the populace; his drawing was more correct than that of Zeuxis, and he succeeded in giving the appearance of motion to his figures and in separating them from the background. Parrhasius was himself vanquished in a competition by Timanthes, who in later life took up his residence at Sikyon. With equal skill he showed a deeper motive and greater moderation, if we may judge by the description of his Sacrifice of Iphigenia, wherein the spectators show every variety of expression of grief; but the father's sorrow is too deep for representation, and he is shown hiding his face.

Of the Sikyonic school were also Aristides, who excelled in the representation of pathetic scenes, tender as well as painful; Euphranor, who dealt with the same heroic subjects as Parrhasius, but with a stronger and more masculine touch; and Ætion, whose celebrated picture of the marriage of Alexander and Roxana is possibly faintly represented by the Aldobrandini marriage at Rome. This picture is composed of a row of figures reminding us of a frieze. The groups are naturally divided into three. On a couch in the center is seated the bride veiled, with her head modestly bent down. A woman half draped and crowned with a garland is seated in attendance on her, a third holds the necessaries of the toilette. The bridegroom, also garlanded, with the upper part of his body bare, waits seated at the door of the nuptial chamber. On the left women are preparing the bath, and on the right three more are performing a sacrifice with music and song. The picture exhibits several individual motives with much beauty, soft and harmonious coloring, and is instinct with that placid and serious charm that belongs only to the antique. In actual painting, however, it does not rise above the ordinary technique of the Roman house decorator.

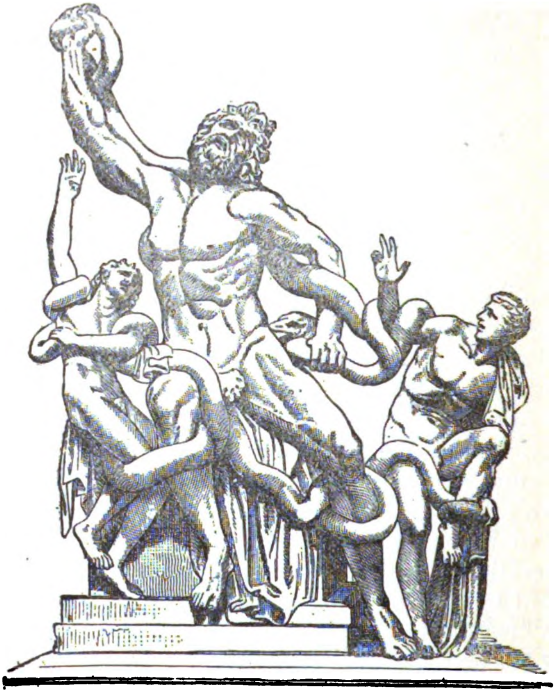
According to the unanimous judgment of his contemporaries, Greek painting must have reached its highest perfection in Apelles. The most celebrated of all his pictures was the Venus Anadyomene, wherein the goddess of love was represented as rising from the sea and wringing the water from her dripping hair. The goddess in this picture was not an ideal figure, but was a portrait of the celebrated beauty Phryne. It was therefore absolutely free from any devotional feeling. Allegorical figures and portraits were also produced by Apelles with equal success. His Alexander was said to be a creation rather than a mere portrait. Greek painting appears to have been executed *in tempera.*

Innumerable designs upon coins, vases, and stone, are preserved, and show how the whole life of the Greeks was instinct with the feeling of beauty.

In the third century we find that the love of splendor has gained the upper hand thruout Hellas, and still more at Alexandria. The great conqueror Alexander wished to raise in that city an eternal monument of his victories and of the union of Europe and Asia. A new art was called for to achieve this work. But the Greek spirit had fallen, alas! from its height, and subordinated the simple, noble beauty of earlier times to the Asiatic preference for the colossal and ornate, especially in architecture and sculpture.

Floating palaces now sailed on the sea. The Colossus of Rhodes, like a bronze sun-god, lighted the sailor's path in storm and darkness. One hundred and twenty feet high it stood; its thumb was the size of a man. After fifty years an earthquake destroyed the giant. The oracle, in harmony with the genius of Greece, forbade its restoration.

A famous work of sculpture of the Rhodian school is the Laocoon group. We see the priest, who warned the infatuated Trojans against the wooden horse, at the moment of his dire punishment. The serpents have enveloped him and his two sons in their folds; Laocoon is striving to concentrate all the strength of his soul to endure his terrible suffering. With swelling muscles and nerves strained by torture, his resolute mind is shown in the swollen veins of his forehead, his chest distended by the obstructed breath and suppressed outburst of feeling, in order that he may endure and keep within himself the pain which tortures him. The work is a *tour de force*, a subject chosen on account of the almost insur-



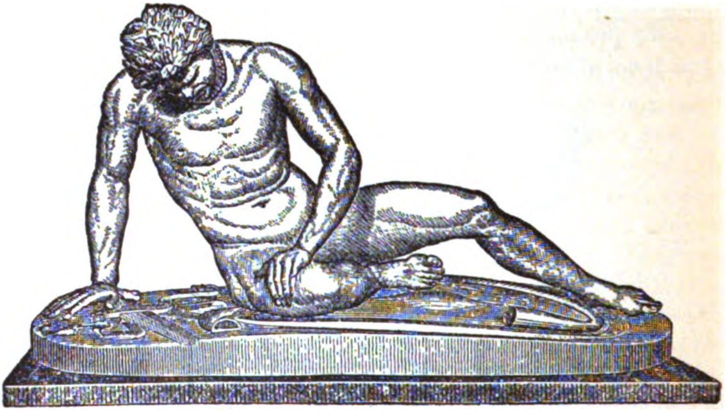
The Laocoon Group.

mountable difficulties it presented, and is too exclusively worked out with a view to pathetic effect. There is no suggestion of the cause of suffering, nothing that is to give it an ethic value; it falls short of tragedy.

The so-called Farnese Bull, at Naples, is another famous work of the same period; like the Laocoon, it shows a marvellous mastery over technical difficulties and great excellence of composition. The moment chosen is when Zephos and Amphion, being on the point of executing the cruel command of Dirke to bind Antiope to the maddened bull, recognize the latter as their mother, and avenge her wrongs by inflicting on Dirke the punishment she had intended for her victim. The bull rears and struggles, and it requires all the strength of the brothers to hold it. Dirke has fallen almost beneath the feet of the animal, and is clasping the knees of one brother while the other is about to fling the noose around her neck. At the side stands Antiope, taking no part in the action. The effect is enhanced by the elaborate accessories showing the nature of the ground and other circumstances.

The Discobolus or Quoit Thrower.

The beautiful figure known as the Dying Gladiator, which no doubt represents a barbarian herald, is probably a copy, if not an original figure, from the monument raised by Attilos of Pergamon to commemorate his victory over the Gauls in 229 B. C.



The Dying Gladiator.

The wounded man lies on an oblong shield, on which is thrown a broken horn. About his neck is a cord with a knot beneath his chin. Exhausted with pain, and faint with loss of blood, he wearily supports his body, with one hand on the ground and the other on his knee, and with bowed head awaits his fate.

The still more profoundly pathetic group of a Gaul killing his wife to save her from captivity and dishonor, may have been another part of the same monument. The principal character in the Ludovisi group retains, even in this impressive moment, a certain triumphant, even theatrical air; while with one hand he supports his wife, who is sinking under the blow he has dealt her, with the other he raises the sword against his own bosom.

Plutarch tells us that Greek art came to an end between 300 and 150 B. C., and the activity of these schools of Rhodes and Pergamon seems like a continuance of the art of sculpture after it was already dead in its own home.

Decadence of Greek Art.

ATHENS, ROME.

Once more we return to Athens to find the city turned into a Roman province after the last victory of Sulla. As many as three thousand works of art are said to have been carried off to Rome. A very charming ornate building has arisen in the third century to receive the prize of the Choregus Lysicrates. Upon a tall square base stands a light round building, with graceful Corinthian half-columns. A frieze in relief surmounted by a rich cornice supports a dome roof, adorned with acanthus leaves and tendrils, out of which a luxurious flower unfolds its crown. On its tendrils rested the offering, a golden tripod, signifying the victory of the Choregus. We observe in the Corinthian column, as in the whole structure, the increasing love of splendor of the Greeks.

Not far from this we find a lofty octagonal building of later date, beneath the cornice of which the eight chief winds are personified; on the summit a bronze triton, who points out with a rod the wind for the time being; beneath the reliefs are seen the lines of a sun-dial. Everywhere there is visible the union of the useful with the beautiful, in which the Greeks are still our models. At the side of the tower of the winds we are astonished by the semicircular arches of an aqueduct which carries the water to a water-clock in the interior of the tower. The vestibule shows foreign influence in the Corintho-Egyptian capitals.

Besides this evidence of an external direction in architecture, we find everywhere in Athens splendid palaces, ornamented in the Sikyonic, Corinthian, and Egyptian manners. In the place of the statues of the gods we find those of princes, local divinities, and famous men. Much as this may flatter the Greeks, they are no longer a free people, and the genuine creative power has been lost along with their liberty.

But once more the downfallen spirit of ancient Greece rises and lives an endless life in numerous imitations of ancient works. In these the sunshine of the zenith shines on us once more, tho its naïveté and warm inspiration is wanting. Out of this time a relatively large number of works have survived to our day, and have been with endless labor dug out of ruins and rubbish.

We will turn in our thought-journey to Rome, and look at these imitations of Greek originals, whose authors were chiefly slaves. Much of which we have already spoken we have only been able to describe thru these works or from the writings of ancient authors. Many important works which yet enchant the civilized world, and serve for studies to the artists who travel to Italy, we have hitherto not seen at all. Among the very excellent works in the galleries of the Vatican, a torso attracts our attention which is attributed to the sculptor Apollonius. Nothing remains but the thighs and lower body, in an attitude which shows us that the statue was sitting and his head upraised. It is supposed to be Heracles at the moment when, after the struggles of his life, Olympus receives him and the youthful Hebe presents him the cup of immortality. Even its ruins reflect the whole ideal treatment of the Greeks in the best times. If we look closer at it, we are filled with wonder how so much life could be breathed even into a fragment of the human body represented in cold marble. What beauty there is in the soft curves of these mighty swelling muscles! How softly and beautifully the neck bends forward! Many assert that this torso is the work of Michael Angelo, who made a wager that no critic would be able to distinguish his modern work from an antique. It is certain that Michael Angelo had so much admiration for it, that in his blind old age he would be brought to it and pass his hands over its form.

Then we enter a small round chamber, and in it we encounter a perfectly executed figure of brilliant beauty, the sun-god Apollo when, as the avenger of his outraged mother, Latona, he slew the children of Niobe, or more probably as with the ægis he stayed the advancing Greeks. In the statue we recognize the beautiful conception of the days of ancient Greece, in spite of the badly restored arm, and in spite of the theatrical attitude of the figure.

The colossal statue of the Nile in another gallery in the Vatican is less finely executed, and belongs to a class of allegorical representations peculiar to the Roman spirit; but still it pleases us by its pleasant cheerfulness. A troop of little boys laughingly clamber on the mighty god who is resting contentedly with extended limbs; the first of them is looking triumphantly out of a cornucopeia full of grapes, and the whole allegory signifies the blessings which the overflowing of the river confers.

The figure of the Sleeping Ariadne belongs, notwithstanding its beauty, to a date later than the time of Alexander. That it is rightly named is proved by a bas-relief placed near it, in which Ariadne is sleeping, in an attitude almost identical, while Theseus is embarking on one side and Bacchus arriving on the other. The pose is graceful, but not free from affectation; the arrangement of the drapery is complicated, and indefinite, so that what is taken for a mantle by some is regarded as a blanket by others.

Among the Romans we find numbers of excellent portrait statues; the men no longer wearing the toga, but chiefly in Greek dress.

The Greek tendency to idealize was not altogether overcome by the native preference of the individual, especially when representing the emperors as heroes or gods, in which case the figure was purely ideal, and the head had only so much likeness as to identify it.

This was especially successful in the female figures, *e. g.*, the Agrippina in the Capitol. Womanly dignity, combined with an amiable and refined attitude and perfect handling of the drapery, is to be seen in the Pudicitia in the Vatican, as well as in the Herculanean woman in Dresden. Another charming face and bust is the portrait known as Clytie at London. Many excellent portrait statues are to be seen in the British Museum, from the wonderfully intellectual and refined head of Julius Caesar to the brutal and bloated face of Nero. The numerous figures of the beautiful youth Antinous, the favorite of Hadrian, show efforts in the ideal direction, often indeed only by the addition of divine attributes thru which the beautiful, voluptuous, but petulant face of the youth who was sacrificed to a superstition of Hadrian, is visible.

If we turn our eyes to other regions in which good copies of Greek originals exist, we shall find in Florence the Medici Venus in her youthful beauty, the original of which is supposed to be by Cleomenes; in Paris a statue of Jason and the Diana of Gabii; in Munich a sleeping faun, wonderfully natural, the delight of all lovers of art; in the hall of the Orcagna at Florence the captivating group of Menelaus with the corpse of Patroclus, the Discobolus and the Boy taking a thorn out of his foot; the former attracting by its true and yet graceful manner of dealing with a difficult attitude, the latter as a delightful genre figure belonging to the good copies of ancient work. In sarcophagi of the time of the Roman emperors, representing subjects like the death of Adonis, the story of Meleager, and the oft-repeated battle of the Amazons in noble relief, the Greek spirit can be clearly recognized.

We now bid farewell to Greece and its art. Except a splendid colossal temple of Jupiter, completed under Hadrian, we find in later times nothing more there that can give us pleasure. Yet the Greek spirit lives on in other peoples. W shall meet with its effects in the course of further travels.

The next meeting of the National Educational Association is to be held at St. Louis, in 1904. The city of Seattle was compelled to withdraw the invitation presented at the Boston convention because the local authorities deemed the hotel and boarding accommodations available in that city at the present time inadequate for the entertainment of the association. The dates for the St. Louis meeting are not yet determined. A meeting of the Department Presidents is to be held in St. Louis about January 1 to formulate plans for the convention programs.

EDITORIAL NOTES.

The American Idea.

In working out the common school problem, America must necessarily strike out upon untrodden ground. There is much to be learned from the experiences and the matured thought of educators in other countries and other ages toward the removal of difficulties in the way, toward the discernment of dangers, toward the obtainment of a proper perspective, toward distinguishing the mirage from the reality. That explorer is best equipped who possesses the broadest knowledge of geography, mathematics, and the physical sciences. A knowledge of the known world is the best prepartion for exploration of unknown worlds. But the equipment must not become a burden. The pleasures of the highway must not tempt him away from the hardships of the trail. Nor should the shelter afforded by the ruts worn deep by European schoolmasters persuade him to abandon the broad plain over which he must find his route to the new goal upon the attainment of which America has built her inmost hopes. Let the thought material be gathered from the treasure-stores of the Everywhere. The thought itself must be original and free, and in tune with the foundation ideas of our democracy.

The origin of the European school is wholly different from that of the American school. Germany, France, and England, to which the teacher looks particularly for guidance, had the blessing of schools imposed upon them by missionaries and other representatives of the Christian church hierarchy. The purpose was to train up the young for church duties. Thru contact with Greek civilization, as transmitted by the Arabs and Arabian influence, the curriculum of the European school has broadened, to include worldly pursuits. Gradually the school was turned into an educational institution, controlled by the church and the state with varying degrees of hegemony. One thought prevailed—silently no doubt, but none the less emphatically—the state or the church wrested the child from the educational control of the parent, on the day of entrance into chool. The teacher represented the church, or the state, or both, as a subordinate agent. *In loco parentis* stood for "in place of the church or the state." In other words, the parents exercised only to a limited degree, and by concession chiefly ecclesiastic, any authority in the education of their offspring at school. They were granted even less rights than are left, with us, to the uncivilized Indian parents of the plains, whose children are often removed from their control by the agents of the nation. The influence of origins is strong.

How different the rise of the American common school! The founders were members of the church, not subjects. They made the church; the church was not made for them. They constituted a theocracy without ecclesiastic rulers—or shall we call it a democracy, with the proviso that the law of the Deity was the only authority recognized above the *demos?* The old New England church, in other words, was a religious union of self-governing families. When we state that the common school was the child of the Pilgrim Fathers' church, we must bear in mind the democracy of that church. Here is a fundamental difference between the American common school and the public schools of Europe. Wherever the American spirit prevails the common school is the educational center of the community united for the purpose of meeting the educational responsibilities rightly belonging to the several families. If this grand institution is to remain true to the thought at its foundation, the interest of the parents in the school is the most vital element to its preservation. Parents must be made and kept conscious of their educational duties by every means in the power of the school. The American parent is not an assistant of the school teacher; the teacher is his assistant. The problem with us is not how to make the home co-operate with the school, but how to make the school co-operate with the home. These are fundamental differences, worth pondering over deeply. There is more in them than the simple statements express.

The announcement of articles planned for the January number will be found on the second cover page.

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STUDY SYLLABI.

In the October EDUCATIONAL FOUNDATIONS was printed a very helpful syllabus for a teachers' meeting held at Asheville, N. C., under the leadership of Supt. R. J. Tighe. It should have been stated then that the syllabus was based upon the outlines for teachers' meetings prepared by Supt. M. G. Clark, of Princeton, Ill., and published in his annual report, but adapted for the particular needs of the Asheville teachers. Superintendent Clark's outlines reveal rare discrimination and painstaking labor. While not exactly based upon the work in this magazine, they will readily serve as most practical suggestions for leaders of teachers' study clubs. Below are given outlines covering the subjects of "The Principles of the Recitation" and "The Mechanics of the Recitation."

The Principles of the Recitation.

I. Necessity of a clear Idea of the true purpose of the Recitation.
  1 Doubles the efficiency of the teacher.
  2 Doubles the value of the student effort.
  3 Increases interest and activity.

II. Each recitation should have a definite purpose.
  1 The ideal lesson is a *complete* thing.
    (a) Only complete when related to the student environment.
      (1) Geography. How related?
      (2) History. How related?
    (b) Must have a beginning, a middle, and an end.
      (1) The beginning—the individual and the connection.
      (2) The middle—the development of the new truth.
      (3) The end—the preparation for to-morrow. (Beginning, preparation for development; end, count, gains.)
    (c) Must be vitally connected with a series of lessons.
      (1) So connected as to leave the child with a "hungry feel."
      (2) Connected by a syllabus in which the lesson is an integral part.

III. Each recitation should be correlated.
  1. With the child life.
    (a) Show its practical nature.
      (1) The city child.
      (2) The country child.
  2 With the world life.
    (a) Interest him in present day history.
    (b) Education of value only as it trains for present day life.
  3 With the Book World.
    (a) Teach them that all of truth is not contained within the one text.
    (b) Teach them that one of the most important things is to know how and where to find what they want to know.
      (a) By general topics.
      (b) By supplementary reference texts.

IV. Each recitation should organize knowledge.
  1 By connecting each new point with previous knowledge.
    (a) Real educational value depends upon organization of new material.
    (b) Bodily assimilation—Psychical assimilation.
    (c) Examples: History; Reign. Political, social, constitutional, religious, literary significance.

V. Each recitation should emphasize salient points.
  1 Important to be able to select the valuable from the incidental.
  2 Very little to be learned.
  3 Certain points to be reviewed, and re-read.

VII. Each recitation should have a three-fold result.
  1 Increase in motive power.
  2 Increase in intellectual power.
  3 Increase in organized knowledge.
  4 Important in the order given.
    a Because the important thing is for the child to want to learn.
    b To know how to learn.
    c To learn.
  5 Mere instruction is out of fashion.
    a Information can be gained from books; it is supervision, intelligent direction that is needed in the teacher.

(a) To bring the child into intelligent harmony with surroundings.
(b) To plant seed, till soil, but let the growth alone.

The Mechanics of the Recitation.

I. Comfortable condition of pupil and teacher.
II. Thoro preparation.
  1 Of teacher.
    a Of what does it consist?
    b "What change will I make in my pupil's life to-day?"
  2 Of pupil.
    a Of what does it consist?
III. Attitude of attention.
  1 Clean desks.
  2 Compact class.
  3 Look well.
  4 Eyes.
    (a) Teachers free. Given to the class. Control.
    (b) Pupils free. Given to teacher. Expectancy.
  5 Body alert.
IV. Thought movement.
  1 Preparation for new class thought.
    (a) Finding the pupil intellectually.
    (b) Keep pupil seemingly ahead of your thought.
  2 Direction of thought.
    (a) Secure thought unity. Each pupil's mind working at the same problem.
      Secure thought energy.
    (b) Each child responsible for complete recitation.
    (c) Teacher and pupil alternate as leaders.
  3 Associational thought.
V. Processes.
  1 Getting of truth.
    (a) Surroundings. (b) Books. (c) Teacher. (d) Self-thinking.
  2 Expressing truth.
    (a) In pupil's own language.
    (b) In pupil's own coloring.
  3 Using truth.
    Each lesson applied by the child.
VI. Class interruptions.
  General law. Teacher always in union with the pupil.

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Contents for January, 1904

The Superintendent and His Teachers. Charles B. Gilbert - - - - - - 317

Teacher and Parent: Their Reciprocal Duties. J. P. Batdorf - - - - - 324

METHODOLOGY OF EDUCATION

Class Management and the Teacher's Use of Language. John Adams - - 328

What Training in Physiology and Hygiene We May Reasonably Expect of the Public Schools. William T. Sedgwick and Theodore Hough - - - - - 333

Manual Training Vs. the Manual Arts. James Parton Haney, M.D. - - - 340

EDUCATIONAL ORGANIZATION

The Social Unit in Our Common School Systems. Wellford Addis - - - 349

EDUCATIONAL TELEOLOGY

On the Definition of Education. J. J. Findlay - - - - - - - - - 360

EDUCATIONAL CLASSICS

Froebel on "Home and School" - - 373

Selections from the Writings of Horace Mann - - - - - - - - 377

STUDY SYLLABI

School Discipline. M. G. Clark - - - - 386

TEACHERS' EXAMINATIONS 390

EDITORIAL NOTES 385

Reading Course for Teachers - - -

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Educational Foundations

OSSIAN H. LANG, Editor.

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The Superintendent and His Teachers.

IN the last article I dwelt somewhat at length upon the extra official relations of the superintendent with his board. He has other relations, not nominated in the bond, with other people, which are no less important than those with the board. Indeed, I trust that I have made clear that these extra-official relations are of very great consequence, and that their character often determines the success or failure of the superintendent in the gross, material sense of holding his place, and still more in the finer, spiritual sense of the work of education. The school superintendent who runs things from the office, no matter how well organized his office may be, and who expects to secure educational results by giving orders, even tho these orders be practically perfect in wisdom and in style, is doomed to disappointment.

When we reach the ideal school system, we shall have Doctor Tompkins's definition of a school, viz: "a spiritual relation," expanded to include the whole system. For if we admit that the ultimate purpose of school organization is the spiritual growth of the young, and that it is to be brought about by means of a spiritual relation between the teacher and the pupil, we must, in logic, admit that if there are other people directly concerned in the cause of education, as, for instance, in guiding and instructing the teachers themselves, those other persons must enter into similar relations with the teachers. The psychological reasons for such relations with members of the board have already been considered, and we shall later consider the sociological reasons for such relations with other people.

Now as to the superintendent and the teachers: It is evident that the character of the superintendent's relations with his teachers must vary largely with the community, especially with the size of the community. In a small city, with only a few schools, the superintendent can know personally every teacher and can establish such relations with them all, resembling the proper relations between the teacher and her pupils, as shall bring about the kind of teaching that he wants in the true way, which is the way of sympathy and harmony.

As we consider cities of larger size the relations must change. In a city of the intermediate class, from 100,000 to 300,000 in population, the superintendent can know most, or all, of his teachers by name and face, and a few of them personally quite well, and that is practically the limit of possibility. In the larger cities, those of more than 300,000, the superintendent cannot know many of his teachers at all personally, and in the very largest cities, such as New York, Chicago, Philadelphia, he cannot know in any satisfactory way even his principals. And yet I am convinced that the sort of personal relations of which I am speaking, and which I deem essential to the best administration of schools, may be maintained by the supervising force in any city, no matter how many millions of people its inhabitants are.

So I must speak first of the character of these relations and let it be assumed that if the city is too large for the superintendent himself to maintain them, they will be maintained by some other representative of the Department of Supervision, and that altho the superintendent's personal relations will be with an increasingly limited number of teachers, they will be in every case with those who themselves must influence others.

It must be evident to all readers that I have in mind now the subtler, more spiritual and higher functions of the supervising force, and am not thinking especially of the judicial and executive functions, and yet there is no necessary conflict between the two. If the superintendent holds himself so aloof from his body politic, particularly with that portion with which it is possible for him to be in immediate, personal contact in order that he may be an unfeeling and unbiased judge, he will fail of the very end he has in mind. In the first place, he has exalted into a position of supreme importance that function which is not primarily supreme.

It is true that the superintendent must perform in an absolutely impartial way his judicial and executive duties, but these, important as they are, are not his chief duties. I am aware that some superintendents will not agree with me at this point, but my primary contention must be kept in mind—that teaching is a spiritual process; that only those teach well who are in spiritual *rapport* with the taught, and are employing both material and method which they believe will be spiritually effective.

A forced and driven corps of teachers, whether yielding mechanically, or whether cherishing in their hearts rebellion, will make a failure of the most philosophical, complete, and wise course of study. It is said of the teachers of one of our greatest cities that they employ their time chiefly in efforts to evade the requirements of the course of study, and yet the administration of this city is strong, vigorous, and relentless—wholly, and it almost appears of intention, unsympathetic. The evil of such a state of things is evident. Teachers, not only not believing heartily in what they are doing and not understanding the underlying principles and purpose of it all, but actually antagonistic and seeking how best not to do it and at the same time keep out of trouble, cannot teach well. The work is sure to be badly done, and the course of study will fail to justify itself in the minds of those who are observing it, not because it is bad, but because it is badly administered, and this in spite of the fact that the Administrative Department is wonderfully strong and able.

Now what is needed in that and in other cities where like conditions prevail? Two things—a careful, persistent, and patient course of instruction in the educational principles underlying the course of study and in the course itself as exemplifying these principles, and in the methods of carrying it out so as to produce the best results. This administrative function I have spoken of somewhat at length in an earlier paper, but this is only a part of the need, and here comes the demand for the extra official executive function.

Teachers are like other people, and are controlled by their feelings more than by their judgment. It would certainly be ungracious to say that this may be partly due to the fact that the great majority of them are women, and I am not sure that that has anything to do with the case. If it has, it is more than offset by the fact that women, as a rule, are more open-minded and more willing to accept new ideas than men are. But where they hate, they hate, and when they are bad, they are horrid. But, on the other hand, when their faith is aroused and they begin to work *con amore*, nothing is too difficult for them, neither effort of preparation, nor effort of execution. This may not sound philosophical or logical, tho it is in the soundest sense philosophical.

More sincere approval of the course of study and of the efforts of the administration to improve the schools in any city would be brought about if the superintendent would enter into agreeable personal relations with the leading spirits, and create in their minds personal faith in himself and a fair degree of personal liking, than by all the lectures and classes for instruction that can possibly be conducted, and as a result of this, vastly better work would be done everywhere.

It is to be borne in mind, too, as I have said repeatedly, that the wisdom is not all with the superintendent; that teachers are at least reasonable beings; that many of them know quite as much as the superintendent of the principles of education, and some of them probably more, and in any case that often the superintendent is himself a mere accident, selected from his fellows for causes that are not apparent (except to the initiated), but even if he is superior intellectually and professionally to the body of teachers, that fact will not be made manifest by any degree of aloofness, but rather by close personal relations. If he is not so superior, his aloofness will simply bring him into dislike and possible ridicule. I have known of more than one instance of teachers and principals who were not convinced of the wisdom of the plans of the superintendent, but were willing to undertake to carry them out sincerely and open-mindedly, simply because of their personal respect and liking for the superintendent and their desire to please, and in all of these cases they were ultimately converted to the superintendent's way of thinking, because they had worked with open mind. Whereas, if their personal attitude toward him had been other than it was, their attitude of mind toward the work they were doing would have been so totally different as to make it impossible for them to see the new light.

I am aware that there is need of caution, and that in instances there is danger in close personal relations of the superintendent and his subordinates, but that is almost invariably due to some personal weakness on his part—either weakness of judgment or weakness of character. Familiarity breeds contempt only with the contemptible; it breeds respect with those worthy of it. The real leader is manifest in a throng, and he does not need a dais, a throne, and a robe to make his leadership manifest. But let me give some of the cautions that it seems to me are needed.

The personal relations never should be a weak leaning of the higher upon the lower. The official should always maintain such an attitude that he can discipline when necessary. In other words, the harmony should not rest upon favors sought from or bestowed by subordinates. The superintendent who at election time has sought the aid of his subordinates to secure his own election, or who has called them in to help him out of some tight political place, has lost his power to discipline those whom he has thus called upon, and human nature being feeble, it is quite likely that they will take advantage of the hold they thus have gained over the superintendent. He should be the recipient of whatever gratitude arises from favors done, and of the abuse which much more commonly follows favors than gratitude. Yet, in so far as possible, the relation should be human and not official.

The superintendent should be careful also not to have particular intimates among his subordinates to the exclusion of others. Of course his personal relations will vary for personal reasons—that cannot be avoided, but, yet, no subordinate should feel that others have the superintendent's ear to his exclusion. All should feel that they can come to him and find a sympathetic ear, whether they wish to seek help, to narrate incidents, or to give encouragement, or even advice. Above all things, the superintendent should avoid a kitchen cabinet and every form of clique. He must not enter into such relations with any small fraction of his subordinate force as to lead the others to think that they are discriminated against or regarded less highly, and he must be especially careful not to make more warmly welcome than others, those who come to him with flattery and adulation. If the superintendent can enter into such personal relations with his subordinates that they can talk over the situation with him frankly and fully, stating objections and difficulties as plainly as if the scheme were their own, he has accomplished much, and is in position to accomplish much more.

From all this I hope I have made plain that the superintendent must be primarily and most evidently human, and not official. As I have said, in the large cities personal relations with the great body of teachers are impossible, but there is always a body of important subordinates—either associate superintendents, supervisors, principals, or prominent teachers with whom some kind of intimate relation is necessary. And it is with these that the superintendent should encourage and seek to bring about those pleasant personal relations upon which his success is likely to depend more than upon any other one kind of relation, and he should encourage these subordinates, of whatever class, to deal with their subordinates in a similar way, so that thruout the system there may be as much of common understanding and common fellowship as is possible.

It is surprising how much of red tape, even, will be rendered unnecessary if people feel right. Suppose every teacher in the city should go into her school with the heartiest intellectual and spiritual sympathy with a broad and uplifting course of study, and carry it out with the utmost zeal and faith—the schools of that system would bound to the front with a speed unparalleled and undreamed of. Now such a state of things, of course, is not possible, but it may be realized, approximately, quite readily in small systems, and even in the very largest by extension of the personal equation; by the recognition of the fact that teachers are, first of all, human beings of a good sort, who are, however, controlled more largely by their sympathies and their feelings than by their intellects, and by the further recognition of the fact that the best way to the control of the intellect is commonly thru the emotions. With all this, the superintendent must appear even, strong, impartial, with ready sympathy alike for all, having many likes, but very few or no apparent dislikes.

The lower reasons for this sort of thing are the same as apply in the matter of dealing with the school board. Material success is better secured thru human sympathy than thru force, but, as I have tried to make evident, this lower motive is not the main motive. Teachers are worthy of this personal recognition; they are not hands; they are not parts of a machine; they are men and women of culture and character, for the most part, and should be treated with the kind of warm, sympathetic confidence which will bring out the best that is in them.

This argument takes for granted that there is some one in the administrative force whose duty it is to help to make teachers better. This involves not merely instruction, but inspiration and personal counsel. That I may not be misunderstood, I wish to repeat that in the large system this important function falls to a variety of people whose duties are differentiated. The superintendent should be the personal inspiration, counselor, and guide of as large a group of people as it is possible for him to come into personal contact with. In very large cities, possibly no more than the associate and subordinate superintendents and supervisors. In most cities it is possible for him to hold such relations, at least with school principals. In the smaller cities, he can hold them with the school principals and some of the teachers, and in the quite small cities with all. But even in the larger cities the inspiration received from the superintendent should be extended downward. An inspirational force is absolutely necessary for the cultivation of *esprit de corps* and for the securing of the best kind of spiritual work in the schools.

The associate superintendents, district superintendents, or supervisors—that is, the immediate subordinates of the superintendent of schools, by whatever name they may be called—in the large cities should constitute such an inspirational force, and should exert their influence upon those within their field, ordinarily both teachers and principals—certainly upon principals. This function should be exercised before that of judge or disciplinarian.

We must never lose sight of the fact that the primary business of the supervising force is to help the teachers teach, and not simply to pass upon them. That unless the supervising force makes it easier for the teachers to teach well, helps them, guides them, stimulates them, inspires them, it fails of its highest function. The young teacher, the discouraged teacher, the teacher who does not understand what the new methods or the meanings of the new course of study are, should have some one belonging to the administration in sympathy with its meaning to whom she can go and expose her difficulties with full confidence of friendly consideration and kindly help.

The superintendent who puts himself upon a pedestal and allows the teachers to speak to him only with difficulty and at a respectful distance, loses his best chance of getting good work. If a teacher goes to the superintendent or the supervisor with anxious heart, but with hope, and comes away with a chilled spine and hopeless, the superintendent or supervisor, however much he may have impressed his visitor and himself with his own dignity and importance, has failed egregiously and disgracefully. It is not just praise to say of a superintendent that he has no friends among the teachers; it is the strongest condemnation. But if, on the other hand, the teacher has visited the supervisor and has come, perhaps, with trembling, and has gone away helped and encouraged, and feeling better able to undertake the work of the schoolroom than before, the supervisor has been so far wholly successful.

These personal relations do not need to be wholly professional—I mean that it should be possible for the teacher to converse with the superintendent without talking shop all the time, but they should be chiefly professional in nature. His aim thru them should be to make it possible to bring about a better professional condition. Above all things, the supervisor should never enter into the relation of gossip with his subordinates. I have known supervisors to be the cause of infinite harm, going about from school to school and carrying bits of personal information which had better have been forgotten. The supervisor or superintendent, who is an itinerant purveyor of gossip, is a nuisance at least, and should be summarily squelched by somebody.

But the visit of the superintendent or the supervisor should always be welcomed by the good teacher and by the ambitious teacher. It should be dreaded only by the teacher who has consciously done wrong, or neglected to do right.

I have dwelt thus at length upon this phase of work because I think it is sometimes neglected by the better superintendents. "The children of this world are wiser in their generation than the children of the kingdom." The political superintendent—the one who gets along without doing the best work—understands the value of this personal contact. Some of the very worst superintendents in the country have maintained their positions for a long time, and have been popular, because they have known how to make use of the personal equation. As Wesley said of music—"There is no reason why the devil should have all the good," so we might say of methods of school administration. Those elements of strength which are recognized and employed by the bad should be considered, and, if not in themselves evil, employed by the good. Let no superintendent think that he will gain power by assuming superiority and holding aloof. He should be strong with his teachers and not apart from them, and if he is the right kind of man his influence will be greater and the good that he does will be vastly increased if he seeks to find the best in his associates, and brings himself into close and sympathetic personal relations with them.

C. B. Gilbert.

Teacher and Parent.—Their Reciprocal Duties.

THE hearty co-operation of parent and teacher is a necessity in the satisfactory education of the child. While the child is under the care of the teacher for five or six hours a day, he is under the authority of the parent for the full twenty-four hours. The parent's right over the child is derived from God, and is recognized by the state as superior to any other. And, altho the teacher is, to a certain extent, "monarch of all he surveys" in the school-room, he must recognize that he is a subordinate in the employ of others, and that he must respect parental authority. No teacher can succeed who does not recognize "home influence."

The parent's duty towards his child, however, makes the parent's obligations toward the teacher almost equal to those of the teacher toward the parent. If the home and the school influences are antagonistic the resultant will be the difference of the two; if they are co-operative the resultant will be the sum of the two. The child is often made the battle-ground between parent and teacher, receiving the fire from both sides. Sad, indeed, is the lot of such a child.

If the home is to be the positive factor, the school must be subordinated. If the school is to be the positive element, the home must be in accord, and must, to a certain extent, be subordinated to the school. All parents desire the good of their children, but a want of proper understanding between the home and school authorities is what often causes trouble. While the error is principally on the side of the parent, the teacher is frequently to blame. The object of the present chapter is to point out how many differences may be prevented.

The teachers must pay due respect to the parent. No teacher must feel as tho he "was everybody, and knew it all." He owes to all the common courtesies. He should treat every one as his equal, and have a pleasant word for all. Of course, no one should violate the rules of etiquette, but once acquainted the teacher should always recognize the parents and friends of his pupils. Some may be poor, but the true teacher will be the readier to show politeness to them. The teacher should not express himself unfavorably in regard to parents. If he has unpleasant opinions he should keep them to himself; then he will never be called into judgment for them. If he cannot say anything good, he should not say anything at all.

The teacher must pay due respect to the opinions of his patrons. No good teacher will disregard the views of his pupils' parents. Parents may sometimes desire their children to drop a study, or take up a new one, or they may have cause for complaint in some other way. In each case the teacher should investigate carefully, and if he can without injury to the school grant the request he should do so; if not, he should see the parent, state the conditions, and reason—never wrangle—with him, and then decide accordingly. Many a teacher has made his warmest friends by refusing a parent's request, but doing it kindly and with good reason shown.

Sometimes, in cases of studies to be dropped or taken up, the matter may be referred to the authorities. In cases of discipline, appeals to the authorities should be rare. To ridicule the actions or opinions of a parent before the school and in the presence of his children is unpardonable. No child is responsible for the actions of its parents, or should be made to suffer for them.

The religious and political views of parents must be respected. No teacher should discuss religious or political differences in school, and the more he keeps out of such discussions outside of school the better. Religious and political differences have shaken nations into fragments, and a school district is but a miniature state. If parents object to the reading of the Bible in the presence of their children, the teacher should excuse such pupils until the reading is over. It is always best to grant the requests of parents in reference to their own children, as long as it does not interfere with the welfare of the school.

The teacher should pay due respect to the actions and authority of parents. It sometimes becomes necessary for parents to keep their children out of school. Where there are no compulsory regulations the teacher should not call such act into question. If absence becomes frequent, a talk with the parent will often remedy the evil. Nor should the teacher interfere when a pupil is requested to come home, provided the pupil has shown due respect to the teacher in asking permission. Frequently keeping pupils after school is more or less an infringement upon the parents' time; the teacher should find some other means of bringing about the desired result. When, however, the parent gives orders to his children to disobey the rules of the school, the teacher must see to it that the rules are fully carried out. Neglect in such cases ends school government. In like manner pupils should be taught to respect the rights of parents.

The teacher should secure the co-operation of the parent. This

How to secure active assistance from the parents of pupils is probably the most difficult problem that confronts the teacher. A
is the only way in which successful work can be done. Every child naturally looks to its parents for assistance and direction, and when parents heartily agree in everything the teacher does, the child is compelled to submit.
quiet consent is generally easy to get, but an active, energetic effort on the part of the parent is not so easily secured. The teacher must interest the parent. This must be done thru the child.

If the parents visit the school, the energetic teacher will have no trouble in arousing an interest by following his regular program. He who has special lessons prepared for visitors is sure to be detected, and will bring reproach upon himself and his work. It is well to make effort to get parents to visit the school. Frequently teachers get up special programs for some afternoon or evening, and then invite the public. Care must be taken that all families are represented on the program, so that every parent may find something to enjoy. The exercises should consist largely of school work, interspersed with music, essays, and recitations.

The teacher must be true. Reports should always give a correct statement of affairs. If a pupil does poorly, it is the teacher's business to report it, and the parent's right to know it.

Young teachers frequently make a mistake in supposing that when parents inquire concerning the progress of their children, they expect a favorable answer. It is true that they are more pleased to hear a favorable report, but if they discover, as is probable, that it is not true, they lose confidenc[illegible]he teacher.

A system of monthly reports generally assists in securing the co-operation of parents. Before deciding upon their use, however, the teacher will do well to find out what was the practice of his predecessor in this respect. If his predecessor used monthly reports, and had a low standard for his estimates, and was in the habit of giving pupils perfect marks from policy rather than merit, then it will be well to drop them entirely. It is, however, a good practice to inform the parent by note whenever the child has done poorly; and equally proper to congratulate him when the child has done exceptionally well. If a boy confesses to an act of mischief in spite of a great temptation to deny, a note to the parent asking him to commend the child will have happy influence.

It has been said that in minor matters the teacher should try to adapt himself to the wishes of the patrons of the school; but in cases governed by the rules and regulations of the proper authorities, or where he is clearly convinced that a certain course of action is necessary to the welfare of the school, he should not violate the regulations nor depart from his convictions. What the district expects to find in him is a leader, and two essentials of leadership are clearness of conviction, and firmness in the performance of duty.—

J. P. Batdorf.

The hope for the moral future of the people is of necessity centered in the common schools. The churches no longer possess the influence they once had in keeping before the people plain lines of righteousness and moral conduct. The bonds of family life do not retain their erstwhile strength, and as a result the moral fiber of the children loses much of the wholesome nourishment the home once supplied. The state is in the ascendancy—or call it society. And the most powerful agency forming under the new order of things is the common school. If educators and philanthropists could only awaken to the importance of it! If only they could turn away from questions of minor importance long enough to ponder upon the great principles laid down in the common schoool community idea! Here are revealed the roots thru which to feed the tree of social and industrial life with food that will make it morally strong.

METHODOLOGY OF EDUCATION.

Class Management and the Teacher's Use of Language

THERE are great differences among teachers in the power of maintaining order. Some can command obedience by their very presence and manner, without any apparent effort; others again appear to be constitutionally incapable of exercising authority, no matter how earnestly they try. These represent the extreme types, and teachers who belong clearly to either of them need not trouble about what is said here regarding discipline. The first class do not require hints: the second class cannot profit by them. A constitutional lack of the power to command—if that lack is complete—should exonerate any person from attempting school work. But this total lack is very rare. Most teachers with a little guidance, a little tenacity of purpose, and a few weeks' experience, can acquire quite a serviceable command over an ordinary class. The hints that follow are meant to guide the average beginner.

(*a*) The first hint is: *keep the pupils busy.* We are all familiar with Watts' remarks about the connection between Satan and idle hands, but teachers ought not only to know the lines, but to realize all that is implied in them. What has been said about interest is applicable here. In order to be interested the pupil must share in the work that is going on. The teacher who does all the preparation, all the thinking, and all the speaking, is in a fair way to ruin the discipline of even a good and well-disposed class.

(*b*) Second hint: Have all your work arranged *for the whole time that you are responsible for the class.* For what has been said above about making the pupils work, in no way argues in favor of the teacher being idle. He must work hard before the lesson, in order that they may work hard during the lesson. There is nothing so fatal to the comfort of an indolent or mischievous boy, as the methodical and persistent carrying out of a carefully prepared plan of a lesson-period. His chance always occurs at the odd moments when, in passing from one thing to another, the class has for the time nothing to do. But in a well-planned program, there are no such moments. Each item rises naturally out of the item before it, and necessarily leads to the item following it, and if sometimes one part of a lesson occupies a little longer than it was meant to do, the explanation is always to be found in the interest excited by that part, and interest is fatal to misrule.

(*c*) *Expect to be obeyed,* is the third hint. Do all your consideration beforehand about how you intend to govern your class. Make up your mind clearly about what you have a right to expect. Be moderate in your demands, but insist upon having them complied with. Issue as few commands as possible, but see that they are obeyed. Let there be no indecision in your voice or bearing, and you will be surprised to see how naturally your pupils respond. This leads easily to the fourth hint:

(*d*) *Speak clearly.* It is astonishing how little attention is paid to this all-important condition of good teaching. A mumbling, hesitating delivery, is a direct invitation to restlessness and inattention. Speak as if you mean what you say, and insist on your pupils doing the same. A mumbled answer is as bad for discipline as a mumbled question. You must remember that you are dealing with a class, and not with a series of individuals to be treated one by one. While working with each pupil separately, you are teaching the whole class thru the individual pupils.

(*e*) The next hint reads as if it contradicted what we have just said: *Study your pupils individually and deal with each according to his character.* But there is no real contradiction. We study the individual in order the better to use him as a means of teaching the whole class. As the result of our study, for example, we shall find that motor children have frequently to be held back, while sensory children have to be pushed forward. One pupil responds more readily to praise (this is the commoner case), another to reproof. One has intellectual interests, another emotional, while a third seems to have no interests of an indoor nature at all. The teacher must approach each on the side of his greater interest. Yet this must not degenerate into breaking up a class into atoms: the teacher must never forget that he is the teacher of a class, and not of eight or ten individual boys. They are all studying the same subject, but each must be led to it in the way that appeals most to his personal character.

Fortunately, the subjects of the school are of the widest range, and enlist all manner of interests. Each lesson may be approached from a hundred different points, and after all there are comparatively few pupils in the class, so it is always possible to provide something interesting for each. In his preparation, the teacher must consider how each point will strike so-and-so: he ought, in fact, to keep a sort of picture of the class before him as he works out his lesson at home.

As a rule there are not more than one or two in a class that require to be specially considered in respect of discipline. Very often, indeed, there is only one dangerous spirit in a class, and if he is interested (or *they*, if he happens to have allies) the battle is won, for the gentler spirits are not only more easily interested, but the example of the interest of the unruly spirits is an additional incentive to attention.

(*f*) The sixth hint is a negative one: *Do not wheedle or pander*. The young teacher may think that by coming down to the level of the class, and by using some of the silly slang to which they are accustomed, he will win their favor. As a matter of fact the pupils soon see through this device, conclude that the teacher is afraid of them, and act accordingly. Avoid the "you fellows" style of address. Nor is it much better to make a bargain with the class, that if they behave for a certain number of minutes they will be rewarded by a story. Stories are first-rate things, but they ought to be used as a means of teaching, not as lollipops.

Do not think that all this is in favor of severity and that ridiculous attitude known as standing on one's dignity. The best discipline is that which is not felt to be discipline at all. So far from there being any struggle for the mastery, the question of who is to be master should not be even considered. Many young teachers have yet to learn the great virtue of taking things for granted. Assume that you are master, and that no one even dreams of disputing your claim, and you have gone far to secure the realization of your assumption.

USE OF LANGUAGE.

The teacher's first problem is to establish communication with the pupil. Too often it is taken for granted that by the time the child has reached school age, this communication has been already established. It is true that the gulf between the teacher's consciousness and the pupil's has been bridged over by the use of words, but it is not often realized how shaky the bridge is, and how seldom ideas cross it in safety.

New and difficult words are recognized as stumbling blocks, and are usually carefully explained. But the real difficulty of communication arises not so much from hard words as from everyday, commonplace words that children are supposed to know perfectly. There are several reasons for this. Chief among them is the variety of meaning attached to words. A point of the utmost importance to all teachers is introduced here.

There are two kinds of meanings to words. First, there are all the qualities suggested by the word; secondly, there are the things to which the word may be applied. The word *dog* calls up the qualities that belong to every dog: these are four-leggedness, hairiness, tailedness, two-eyedness, snoutedness, and all the other qualities. This is called the *connotation* of the word. But *dog* also means all the different kinds of dogs—retriever, St. Bernard, fox-terrier, Newfoundland, deer-hound, poodle, and the rest. This is the *denotation* of the word. In teaching there is very often confusion between connotation and denotation. Not unfrequently the teacher asks a question in connotation, and gets an answer in denotation. He asks, for example, "What is a river?" and gets the reply, "Mississippi." It is true that the Mississippi is a river, but it is clear that is not what the teacher wants.

Besides, nearly everyone gives his own additions to the connotation of a word, and this private connotation which people attach to a word may be called particular connotation. A child who saw a thief being taken off to prison adopted the view for long afterwards that a thief is a man who steals, and goes to prison, wears moleskin and a red comforter, and has a purple mark on his face. This was that child's particular connotation. A large part of a teacher's work consists in seeing that the particular connotation does not interfere with the working of his pupils' thoughts.

Accordingly, an important part of the teacher's work lies in talking to his class and questioning his pupils so as to bring out any misunderstandings due to this dragging in of private elements of connotation. It is a mistake, however, to seek to explain every difficult word as you use it. This leads to a sort of running translation, which cannot fail to be irksome and confusing.

The word must not be made the unit of thought. As a matter of fact children are much less puzzled with words they do not understand than is generally supposed. An unknown word now and then does no great harm. "Do not be afraid," says Richter in his "Levana," "of not being understood even for whole sentences. Your look and your accent, and the instinct that divines before understanding, illumines the half and these and time together the other half; also remember that they understand your language before they can learn to speak it, just as we do in the case of Greek, or any other foreign language." Our working rule should be to use as simple language as we can without straining, that is without unnaturalness, and to explain no words except those representing ideas that really form part of the actual lesson.

There is an important distinction between a word not understood and a word misunderstood. If the pupil does not understand an expression, no great harm is done. It is only a matter of postponing a bit of knowledge. But if a wrong meaning is conveyed harm has been done. It is of comparatively small moment that a pupil does not understand his master's phrase "on an average," but if he infers that an average is "a thing for hens to lay eggs on" because his master has told him that "a hen lays on an average so many eggs a year," there is room for improvement.

The order of words is of the first importance in dealing with children. In all cases use direct constructions, and every-day idioms. Children go straight ahead in their thinking. All inversions should be avoided. Directness is the essential quality in speaking to children.

Whately points out in his "Logic" the mistaken notion arising from the ambiguity of the word "plain." Young ministers, he says, when advised to use plain language, sometimes understand this to mean that they are to use unadorned language when addressing unlettered people. On the contrary, illiterate people and quite young children frequently use highly figurative language. Indeed, the slang of our slums is nothing more than an elaborate system of hyperboles, metaphors, and similes, aided by metonymy. It is the same with children's games. We can be as figurative as we please in dealing with the young, but our figures must be direct; not far-fetched, but bold and unmistakable: above all, they must deal with ideas that are familiar to the children.

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Where a spirit of sympathetic co-operation between teacher and pupils is manifest, good school discipline prevails. . . . Of course there are a few pupils here and there who respect force only, but such cases are rare. They have to be handled with decision at times and forced to recognize an authority which they have not yet learned to respect, because of irregularity of attendance or the absence of home influence. The right sort of teacher seeks earnestly to so understand the individual pupils that the wisest thing may be done at all times for each pupil. It is a greater accomplishment to secure the sympathetic co-operation of a wilful pupil than it is to compel his submission to authority by force. The ideal condition exists where interest in work and love of the right for its own sake make the outward appearance of the exercise of special authority unnecessary. Supt. J. A. SHAWAN.

Columbus, Ohio.

What Training in Physiology and Hygiene We May Reasonably Expect of the Public Schools.*

PHYSIOLOGY and hygiene were introduced into the public schools for the purpose of affording information concerning the structure and functions of the human body, being expected thereby to contribute to the preservation and promotion of health; and they have kept their place, in spite of serious shortcomings, as a concession to the practical importance of sound ideas concerning health and disease.

We may confess frankly that physiology and hygiene have not always hitherto justified their place in the curriculum by their results. They certainly have not, on the whole, accomplished what was originally expected of them. Their results have been disappointing, and it is by no means unusual to hear competent educators express the opinion that it would be better to drop them altogether. Physiology and hygiene are too frequently looked upon by school authorities as an unavoidable necessity, and by teachers and pupils as a bore. And yet we doubt whether any of these superintendents or teachers would care to take the responsibility of banishing them altogether from the curriculum. They may not be a success; but the conviction remains that they ought to be a success, and doubtless the hope remains, however faint, that some day they will be.

The present unfortunate condition of affairs is due, in our opinion, largely to the fact that the primary purpose of these subjects in the curriculum has been neglected or forgotten. They were perhaps introduced prematurely. Fifty years ago anatomy was the one branch of medical science about which definite statements could be made, little was known about physiology, and the great field of hygiene was largely a matter either of popular tradition or of impressions derived from personal or racial experience, often, indeed, surprisingly accurate, but nevertheless lacking in the certainty of experimentally demonstrated fact.

It is only exact knowledge which lends itself to school instruction. We do not teach electricity in our courses in physics by speculating about thunderbolts or the nature of magnetism, but by telling what we know of the production, the conduction, and the induction of electrical energy. We leave the region of the indefinite to the investigator. It is easy to see, therefore, how it came about at the outset that in planning the work in physiology and hygiene in schools the details of gross and minute anatomy should have formed the major part of the whole. Function was treated only sparingly, because very little was known about it; and considerations of health and disease occupied an insignificant place simply because definite statements could not possibly be made about them. The instruction in school physiology and hygiene was chiefly anatomical for the reason that the dissecting-room was the sole laboratory of the medical school. It was the one region of real and accurate knowledge of the subject.

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*From a paper read before the American Social Science Association, Boston meeting, May, 1903.

This condition of hygienic knowledge has been entirely transformed during the last twenty years. The physician is far less mysterious in his manner than formerly, because his fund of knowledge is vastly greater. He often explains his reasons to his patient and discusses the facts of his profession with "the laity," where he would not have done so fifty years ago.

The teaching of physiology and hygiene in the public schools has lagged far behind the march of medical and hygienic progress. It is inexcusably behind the times. We now have facts which anyone can teach and which should be made known as a preparation for the proper conduct of life; and it is these facts which should form the main part of the teaching. The subject-matter should be thoroly revised, and in no more important particular than in the restriction of anatomy to the minimum amount needed to give a clear conception of the general structure of the body as a mechanism and of the normal working of that mechanism. In a rural school-house on the Maine coast we once saw upon the blackboard, painfully written down by a fisherman's child, a long and learned list of bones found in the human body. Even for a medical student the list, as such, apart from the physiology and surgery of the bones, would have been of small value. An arid osteology is a poor introduction to the study of modern hygiene, and one not calculated to arouse a compelling interest in the subject.

Similar considerations hold with regard to the teaching of physiology. The educational value of this science, it is true, is much greater than is that of pure anatomy, for, in the first place, it is more interesting. Not only in childhood, but thruout life, we do not care greatly about the parts of a machine unless we know or can guess their use. From this point of view physiology is a good teaching subject, and all the more so because it deals with a machine in which most of us are naturally interested. The study of the activities of the human body has also the highest philosophic value. It imparts that first and most important lesson for the conduct of life—a lesson which every person leaving the upper grades of the public schools should carry away with him—that the human body has a material basis and is a *mechanism*, a *machine*. This fact is not with most people a part of the philosophy of living, hence the frequent neglect of the commonest care of the body, such as would be naturally given to a watch or a bicycle.

We have urged that anatomy has no place in the public-school curriculum except as it is necessary to the understanding of the problems of physiology and hygiene; and we shall see it cut down to the minimum needed for this purpose without the slightest regret. We should not feel the same if physiology were to be similarly made strictly subservient to personal hygiene; that is, if its philosophical value were to be neglected; but, fortunately, this is not necessary. The physiology which is most useful in understanding the problems of personal hygiene is almost exactly the same body of principles which has the greatest philosophic value; and the method of presenting them is the same for the one purpose as for the other. We have not the time to enter into details in this matter, but we are speaking from experience and are sure of our ground. The instruction in physiology should aim at the outlines of the more important functions of muscular contraction, nervous activity, circulation, nutrition, temperature regulation—all of these expressed as far as possible in terms of physics and chemistry; and it should endeavor to avoid needless details. For example, the pupil should understand that the heart is a force pump, but it is not necessary that he should understand the exact structure or mechanism of the auriculo-ventricular valves.

Again, physiology should not be made primarily, or even to any large extent, in public schools, a means of laboratory training. Such training can be had more readily and more advantageously in chemistry and physics. To attempt to give the same laboratory training in physiology as in these subjects would inevitably be to consume time which is more urgently needed for hygiene. The fundamental facts of physiology can be demonstrated and enforced in the laboratory, even in common schools, without much difficulty, and we would not for a moment depreciate the value or the necessity of a certain amount of this kind of instruction; but the use of the laboratory (always time-consuming) must not be allowed to distract attention from the true function of physiology and hygiene or to interfere with its fruitful realization.

A course of moderate length in physiology should suffice to impart enough facts of structure and function to furnish a solid basis for sound training in hygiene, and to give meanwhile an abiding sense of the material composition and mechanical character of the human body and some knowledge of its environment and operation. With so much of preparation it is easy to pass on to a practical consideration of health and disease, the means of promoting the former and of avoiding the latter. Health becomes simply normal, disease abnormal, living. Such terms as "constitution," "strength," "weakness," "feebleness," "robustness," are easily understood by constant reference to mechanisms well or poorly made, or to structures strong or weak. Wounds become interference caused by invasions or damage by extraneous matters—bullets, knives, parasites, clubs, dogs, slivers—which are as obviously out of place in living mechanisms as dirt in the works of watches. Germs are microscopic invaders, microscopic parasites. They enter and wound and kill, not mysteriously, but by damaging or interfering with the human mechanism. Best of all, they can often be kept out by the avoidance of exposure, as truly as bullets can.

INSTRUCTION IN HYGIENE.

Passing on to the strictly hygienic part of the subject, first in logical sequence comes *personal hygiene*, the proper regulation of the activities of individual life—muscular work, mental activity, feeding, the protection against colds and other inflammations, the care of the body by bathing and clothing and the like. These should not be touched upon in short paragraphs which, like afterthoughts, conclude the chapters on anatomy or physiology, but should be separately and fully treated for their own sake, and from the standpoint of the organism as a whole rather than from that of special organs. These are subjects about which everyone needs real and true information, and sooner or later seeks it. Shall such knowledge be obtained from the public schools, or sought eagerly but in vain in the brazen advertisements of magazine originators of new systems of physical training, or in the rash and rarely disinterested advice of advocates of new breakfast foods?

Modern hygiene begins with the individual, but deals also with the hygiene of the family, of the community, of the state, and of nations. In rapid review of the place which these branches of the subject should occupy in our preparation for sound private and public life, it must not be forgotten that the great majority of the pupils in our public schools have no opportunity or intention to enter colleges or higher schools, and yet are likely to become householders, housekeepers, head of families, or citizens. The principles underlying household or *domestic hygiene* and sanitation therefore claim some consideration at their hands. These should include such questions as the proper site of the house, the value of fire-places as ventilators, the importance of wall papers free from arsenic, the advantages of bare floors and of simple rugs as compared with carpets difficult to clean, the necessity of a pure and abundant water supply, the desirability of prompt removal of wastes by drainage and by such other devices for rural communities as may be made most sanitary under the circumstances, the dangers of damp cellars with the reasons why cellar dwellings are so peculiarly unwholesome, the dangers of illuminating gas (especially the modern so-called "water gas"), the need of careful consideration and frequent inspection of gas fixtures to avoid small but dangerous leaks, and other similar matters bearing directly or indirectly upon the welfare and sanitary condition of the home. Here might well be told the truth in regard to the advantages and dangers of cesspools and sewers, and the effects of leaky or otherwise defective plumbing.

Place should also be found, and might easily be made by the sacrifice of some osteology and histology, for a brief consideration of *the health of communities*, such as thickly settled neighborhoods, growing towns or cities; of the dangers attending impure water supplies and defective sewerage systems; and the importance of methods for the sanitary removal and disposal of garbage, rubbish, and the other wastes of life. Something might well be said regarding the need of proper municipal supervision of all these matters as the essential of a rational municipal sanitation and of the sanitary value of good public service. Here also might be touched upon the advantages and the right use of municipal parks, playgrounds, and gymnasia; of public lavatories, water-closets, and wash-houses; of smoke abatement and noise suppression; and something might be said regarding clean streets and the thoughtless scattering of papers, banana skins, and the like rubbish, which necessitates a costly scavenging; something regarding pure ice and especially pure milk—problems in the solution of which all classes of the community must eventually take an active interest and participation, if reform is to come.

And, finally, room should be found for a brief explanation of quarantine, its advantages and disadvantages; the isolation of cases of infectious disease and the reason why this is so essential to the public, tho so inconvenient to the individual; the necessity for public hospitals for contagious diseases and for municipal or state sanatoria for tuberculosis; the fundamental problems of international hygiene; public food inspection, such as that conducted by the federal government for trichinosis in pork to be exported to foreign countries; and other problems calling for intelligent co-operation of the citizen in *national and international hygiene*.

Trained along these lines, the youths of America, whether or not afterward going to college or technical school, would enter upon their maturer life with some realizing sense of the general structure and operation of the body as a physical mechanism, and the necessity of obedience to physical laws. They would become familiar with the sources of diseases and with some of the more obvious ways of avoiding them. They would have some intimation of their duty, not only to themselves and to any families which they might afterward have, but also concerning wholesome houses, pure supplies, the safe disposal of wastes, and some of the problems of the municipality, and even of the nation, of which they are units.

IS THERE TIME FOR THESE THINGS?

We have, of course, to meet the important objection which will be urged against our point of view, that, desirable as all these things may be, the time available is too short for proper dealing with them. This, however, we deny. Time enough to do all these things, and do them well, either is now or lately has been found in the public schools in the various courses for instruction in physiology and hygiene. It will be necessary, it is true, to revise and bring up to date our subject-matter and our methods of instruction. We must teach less about bone and sinew, and more about muscle and nerve. We must teach less about anatomy and histology, and more about the germ theory of disease, about polluted water and polluted milk. We must simplify every statement and eliminate the unimportant. We must not seek to make of physiology a training in the precision of measurements, or in scientific method, or in anatomy, or in physiological chemistry. Some experiments must be made by the students, and demonstrations by the teacher must abound; but we must keep steadily in view the practical object for which chiefly school time is, and long has been, dedicated to physiology and hygiene, namely, the rational conduct of physical life.

Above all, we must insist upon relief from the incubus of that "scientific temperance" instruction, so called, which has too long rested upon the teaching of physiology and hygiene, winding its tentacles about, octopus-like, sapping its strength and crushing out its usefulness. On this subject let us have no misunderstanding. The evil effects of the use of alcoholic drinks must be fully and clearly inculcated. The youth of America must be thoroly informed of the insidious dangers which lurk about strong drink. But on the other hand, we must never forget that the public schools are no place for any propaganda, and that the freedom of teaching must not be surrendered even to reformers.

Whether we are pleased with the fact or not, modern life has become more strenuous. In order to achieve success, the individual must do more in a given time; hence the urgent importance of a personal hygiene which shall really guide him in the proper care of the body. Meantime the care of the public health has become one of the most important functions of government, and it will be increasingly important in the future. Its success in America must largely depend upon an enlightened citizenship to which it can look for support. We now teach history and economics and civics with some reference to the future life of the public-school pupil as a citizen. Our teaching of hygiene should keep in view the same great end; and if this paper draws attention to the lamentable inadequacy of our present instruction in that subject to this purpose, our object will have been accomplished.

WHAT IS NEEDED.

But yet more is needed. We need a clear conception of the true place of physiology and hygiene, but we need also the proper teachers to realize that conception. If the subject is as important as we have represented, it should be taught by teachers specially trained. In the higher grades of our schools we often have special teachers of languages, of history and civics, of mathematics, of the natural sciences; but it is rare indeed to find physiology and hygiene in the hands of teachers who have had special training in these subjects. Too frequently these are imposed upon the least experienced member of the staff, whose connection with the school is too recent or whose tenure is too precarious to allow refusal. All this must be changed. The exact method of securing the trained instructor may often be left to local conditions. At times, medical examiners, the demands of whose practice are not distracting, and who are at the same time good teachers, may fill the position; at other times, teachers of the biological sciences should be encouraged to prepare themselves for the work.

A method which especially commends itself to us is to combine this work with that in physical training. The teachers of physical training, of all the instructing staff of the school, stand in closest relation to the problem of preservation and promotion of sound health. At present their work is somewhat narrow and suffers from the lack of any sufficient explanation of the principles of physical training. It would broaden the work of these teachers and make their present efforts more effective, if physiology and hygiene, so obviously related to their other work, were placed in their hands. True, it would require a broader preparation and an extension of the work of our normal schools of physical training in both time and scope; but this is really an argument in its favor.

There is a widespread feeling that the present training in physiology and hygiene in the public schools is a failure. But signs are not lacking of a strong feeling among prominent educators that these subjects can and should rank in dignity and usefulness with languages, mathematics, physics, chemistry, biology, history, and civics. Physiologists have long protested against the domination and excesses of "temperance physiology." Educators have complained of the bad pedagogical requirements often placed by law upon the teaching of the subject. We appeal for aid in bringing about a reform, not as parties to either side of a dispute on questions of scientific fact about alcohol, nor from the standpoint of pedagogic theory and practice, but because the subject is one which profoundly affects social conditions and is closely related to a more intelligent and a more successful conduct of individual and social American life.

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Manual Training vs. The Manual Arts.

THOSE who examine closely into the development of the elementary curriculum in this country, can scarce but come to the conclusion that the primary force in the introduction of motor education was an economic one. The strongest supporters of drawing—the first of the motor branches to secure recognition—offered it as hand and eye training invaluable to the artisan, while construction at its introduction was advocated as a form of preparation also necessary for the future craftsman. It is true that the disciplinary value of both was urged, but such plea was secondary to the plea for skill—for work which should prepare the child for manual labor and should rouse his respect for it and the laborer. The direct outcome of the industrial plea was the establishment of a number of so-called "Manual Labor Schools," equipped to give certain elements of industrial training.

Both the drawing and the shop schools date back a generation. Introduced to the school system from without they naturally could experience no quiet and uneventful development. As adventitious elements their existence was bound to be questioned and combatted. The drawing languished and the Manual Labor schools themselves died in the fierce flame of educational criticism against the introduction of industrial aims in elementary teaching.

Before, however, the intermediate grades had experienced the full force of these perturbing charges, other factors had appeared in the problem. Froebel, with keen insight into the phases of child growth, had, in the kindergarten, made a system in which symbolism centered about motor processes, while the Technical Institute with strictly utilitarian ends in view had risen to supply the demand for the trained artificer, and had made haste to adopt a scheme of instruction aimed to give direct knowledge of constructive methods thru formal exercises. This scheme powerfully affected the constructive work of the elementary school.

In the grades the constant iteration of the plea for hand and eye training served in time to secure for certain of the forms of motor work a modest foothold, but one so precarious that every flurry of financial stringency or curriculum reform served to make its advocates tremble with apprehension. The new subjects with their contributions of skill and artistry stood alone in a course of study dominated by the R's. In this curriculum each study was pursued for its own sake and each was highly specialized. Under the circumstances it was not surprising that the manual branches were formalized from the start, and that root-bound, they soon showed signs of arrested development. The methods of the Technical School resembled much more closely those of the grades than did the free practice of the Kindergarten, the manual work therefore, instead of ramifying upward from the earliest years along the lines of child growth, grew from above downward along other lines designed for the training of the young mechanic or engineer.

Manual training ideals thus took their color from technical ideals. The practice exercise was early made the rule, and the work in construction was looked upon by its teachers as done for construction's sake. Drawing and design were similarly developed. Examining the older methods one finds thruout the same formality and the same effort to employ in the lower grades processes suitable only to students of mature years. Everywhere practice exercises appear separated from their applications; squares and triangles are drawn—the dry chips of geometric procedure—and side by side prim designs are made, but for no specific purpose. Insular and apart such work in the training of hand and eye failed to make evident its developmental and culture value. It lacked vital interest in all its forms. Its disciplinary elements were employed to the exclusion of its human elements. Technical knowledge was given without conscious power to direct it to useful ends.

Almost within the last decade an entire change has taken place in the educational situation. The philosophy of elementary education has seen some of its chapters revised and some rewritten. Motor training has received recognition in such form as to establish the subjects which represent it, on a very different footing before the educational tribunal.

The force which has worked this transformation may be ascribed in largest measure to the increased knowledge of the child which has followed the patient study of psychologist and physiologist. Presenting in detail the phases thru which the child passes from the cradle to the full flower of adolescence, such study has done much, very much to disabuse the teacher of one of her gravest errors—an unconscious mental attitude toward the child as an adult in miniature.

Genetic psychology has placed the child in the clear light of scientific inquiry. He has been shown to be a constantly changing organism, not the same in power or point of view for any two years together. He has been found to pass thru very regular and constant developmental changes, and his primitive instincts have been proven to be the basis of interests, and therefore of his education. To these primitive instincts the relation of his motor education has been clearly shown. His desires to construct and decorate are deep-lying and fundamental. Increased knowledge of his physiological and mental development has taught us that motor and mental sides must be developed together, that indeed in large measure, mental development depends upon the opportunity given for sensory impression and motor expression. Constructive agencies are the natural media thru which he grows. Arrested on the motor side the child acquires a mental strabismus later plainly discernible in a one-sided view of life.

The relation of the child's environment to his development has also been more clearly discerned thru this study. As we give him knowledge of his body, and of his power and capacity, so it is found necessary that he be given a knowledge of the social world about him—the great human plexus with its ganglia and its ramifications. Constructive training is seen to be necessary for him who is to comprehend the constructive life of the world. The child's schooling as a whole must be socializing in tendency that he may gain consciousness of his environment, learn his social relationships and the meaning and necessity of the social service to which he is trained.

Such change of ideas in regard to the function of the elementary school has already markedly affected the curriculum and the mutual relations of the subjects in it. In the language of Dewey, "the center of gravity has been shifted from the curriculum to the child." Upon his instincts the course must be founded, and about his interests it must revolve. Motor education must clearly become a part of general education, and preparation and realization in school studies, be brought close together. This is in measure but a restatement of the philosophy of the Kindergarten. The very present indeed is witnessing in motor training a reversal of that process of downward development from the Technical school, to an upward development from the Kindergarten. Manual training ideals have been necessarily much affected by these changes. The necessity of greater unity and vitality in the related branches has become urgent. The past has seen the different motor branches separated and unrelated, with the emphasis in each upon technique. The present demands a greater variety of materials and far more intimate relations between the drawing, construction, and design, which are seen to be but means to a common end.

Manual training in the past has been construed too literally. It has meant just what it says—hand training, sensory training—the practice of some form of constructive work designed to give muscular co-ordination. For the great majority of teachers and for the public at large it has meant but shopwork, the handling of certain tools and the making of certain prescribed exercises. Too often the special teachers by their attitude, have served to strengthen this view. They have aided to segregate their subject, whatever the form it took, by their emphasis upon its technique. Their aim has been the perfect model, and the thing made, whether useful article or mere practice exercise, has appeared as a requirement, with the child's relation to it formal—a model produced at command and not by virtue of a real need—a model the product of the child's hand, not of his brain.

We are now thinking ourselves away from this view of manual training as a schooling in any special practice, toward one which conceives it as a "principle"—or what might almost be termed a "mode" of education, one which looks to see the child given thru his desires, an opportunity to express himself constructively, and to develop clear notions of his relations to his surroundings.

The term "Manual Training" has, however, been so long identified with formal practice that as a term it cannot now be divorced from such interpretations. It has meant constructive work alone—has meant special training rather than general training, has disregarded the æsthetic side and has aimed to give schooling in processes rather than to respond to the child's first instincts to build and decorate. As a term "Manual Training" is narrow and insufficient. In default of a better, each who employs it, recognizing its restrictions, feels it necessary to assert that it does not mean what it says, "hand training", but something far broader. For the rewritten creed there should be a new name. "Motor Training" would indeed be a better term, but better still would be one which includes all possible practice in the arts, one which recognizes requirements æsthetic as well as constructive. Manual training must become training in the Manual Arts.

As a broad title the Manual Arts should include all forms of drawing, construction, and design which may be taught. The term recognizes the intimate relationship which exists between the subjects named and sees them as definite educational means working toward the common educational end. Defining in a general way the different branches, it at once emphasizes both the motor and artistic elements in their performance.

Drawing, the arts regard not as a special training schooling the hand and eye to dexterity in reproduction. Over and above its manual value it stands as a medium of expression in the illustrative work of the little child, and in the nature sketch or the plan of his older brother. To the younger pupil it is a form of language, a picture writing, a cursive script in which he clearly reflects the ideas he has gained in the form in which such ideas have been mirrored in his mind.

To the older pupils such drawing should be made of constant service. The illustrations in science lessons must not be made for illustration's sake, but because they are facts of form and proportion to be remembered, the plans not made as mere exercises with the T square and ruler, but because such plans are needed for the constructed model which is to follow. And the model itself must stand as the definite center round which the dozen lessons in planning, construction, and decoration must revolve.

What shall the nature of the model be and what its material? Such questions can be answered only in the light of the conditions which prevail in any given locality. It is to be made plain that the Manual Arts do not contemplate any uniform series of models to be repeated in a dozen different cities or even in a dozen different schools of the same city. The form to be made in each case should be one which rises out of the real need of that particular class room. The associated lessons in free-hand drawing, in mechanical drawing, in color, constructive and applied design will then all have direct points of application. To the teacher with the constructive point of view the range of such models is extensive, furnishings for the school may be made, pieces of apparatus, and scores of that host of lighter appurtenances, note books, covers, portfolios, and the like, which every class-room must have. Other forms may serve to make clear the historical development of industries which the child reviews in his study of the rise of the race from forest dwellers to peoples of great cities, or may serve as useful household articles to introduce the child to the fruitful field of home industries and to the minor crafts. The teacher impressed with the value of the arts will thruout her daily work seek for opportunities for motor expression, and will feel for every lesson which may be so emphasized no satisfaction until it has been made a constructive as well as a mental memory.

The materials in the arts should be varied. The child should learn his power of control over many plastic and pliable things—over many things which may be cut and shaped—string, yarn, clay, raffia, paper, leather, wood and thin metal. The occupations offered should be typical. Given the occasion for any form it should, if possible, be made then that it may lend its aid in giving to the child the constructive point of view. "Every good occupation," says Dr. Hall, "should be curricularized." Every model should show to the child the relation of plan and design to finished form, and, as his power of appreciation grows, every form should reveal to him the possibilities of its refinement in obedience to the laws of taste. The search for beauty in the arts is one of the roads whereby they lead to culture.

Taught thus with a common purpose and without undue emphasis upon technical ends the arts act and react to mutual advantage. Ability to draw and to plan is seen to lie at the basis of construction, while the laws of beauty speak in every well-planned form about us. The arts regard the desire for beauty as instinctive—a passion to adorn. Thru such instinct they would lead the child to learn the laws of fitness of form and decoration, and to see such laws as they appear in the fine painting or in the lowly form of daily use. The arts should be conceived as representing but varying phases of one idea. They are not to be disassociated, not to be betrayed from their position as indispensable mediating agents between the child, his studies and the social life about him. As co-ordinate and co-ordinating forces their value may be stated in definite terms for pupil, teacher, curriculum and school.

For the pupil they are primarily "developmental," in that they offer to him from his earliest years most valuable media for self-expression, media so adaptable that, at each change in his point of view from infancy to adulthood, they stand ready to respond to his desires to investigate, to fashion and adorn, media so potent that at each higher level which he reaches in consciousness they reveal to him broader knowledge of his own powers and keener insight into the activities of the world about him. The arts present in the forms made, elements of direct use and permanency; they practically acquaint the child with the laws of beauty, as they enter into the structure and decoration of things for use; they offer activities which school him to habits of neatness, independence, mental and manual discipline, they present instruments thru which he may be given knowledge and stimulus which cannot be conveyed in any other way. As vehicles they serve to convey him on the road from social endeavor to the domain of social experience. They seek to create in him, with a varied ability, a power to see constructively, to realize, that is, the agents, the tools, the plans and processes which have built and are building the world about him. They place him as a worker in the world, not as a spectator. They quicken his sympathy and his interests. They aid to make the school less school and more life.

For the teacher the arts when comprehended act as a liberating agent. She becomes the power to shape the details of the course of study. With personal initiative for the child, comes the possibility of personal initiative for herself, in the adaptation of the drawing, construction and design to the development of her class-work in a dozen different subjects. To the teacher the arts give a direct method of approach to the child; they offer a disciplinary agent controlled by interest and of unrivaled power. In regenerative work—in reclaiming the dull, the backward, the truant irked with learning without doing, the arts have no peer in the studies of the class-room. In their practice the child becomes a willing co-operative, who may be called upon for suggestion, both for problems and for their solutions. Mutual interests breed sympathy. The arts become a bond between the teacher and the taught. Such sympathy is gained in no other way. They cause the teacher who realizes their value to seek constantly for relations between learning and doing, or better, for opportunities to teach thru doing. Insensibly—unconsciously—the teacher who has grasped this vitalizing principle becomes broad and yet broader in her point of view. She sees her work from without as well as from within. Self-activity on her part becomes as necessary as on the part of the child. She becomes much more truly a student of the child and of his education.

In the elementary curriculum the arts stand as a center and start point, from which the child can proceed by way of his immediate interests to his immediate surroundings. Relating themselves as well to work in number, language or nature study, they serve as a flux to weld the primary curriculum into one common whole. The educational philosophy which preaches the arts preaches the child as the motive force in the curriculum. It offers in place of an imperfect system of correlation, a definite scheme of work based on the pupil's mental processes and on the development of his mental powers—a distinct and comprehensive scheme in which the different subjects jointly aid in giving to the pupil that composite view of the world which he is at the moment prepared to receive. The arts would introduce the direct, the objective methods of science teaching to the pupil—would make the school-room itself a laboratory where plans are thought out and experiments are tried; they would cultivate the child's active not passive attitude, and would transform the class-room from a place of listening and rigidity to a place of doing and activity. Thru out childhood and adolescence they would seek in every way to be identified with the child's life only when thus identified can their peculiar functions be made of highest service.

Two broad and general deductions may be drawn from the foregoing. The first, that the successful development of the arts depends upon their natural growth in the curriculum; the second, that they must not be confined to the school-room, but must become part of the life and activities of the child—must, in other words, pass over into the home.

A natural growth of the arts may be defined as one in which external and authorative forces have not been invoked to compel the acceptance and practice by the class-teacher of some formal series of exercises in drawing, construction or design, but one which is rooted in the efforts of the teachers themselves to reach directly the interests of their pupils thru exercises related to class-room needs. Such growth is dependent upon the comprehension by the teachers of the purpose of the arts, and upon their acquisition of easy confidence in the necessary techniques demanded in the various occupations. A natural growth means a schooling of the teacher to purpose, before her schooling to practice; it means offering to her a variety of occupations and a wide range of exercises; it means praise for every original application devised by her, and incentives to her to enter upon every path which gives fair promise of leading to new forms of activity in connection with her daily work. A natural growth of the arts means a free, not a formal growth—it may mean a growth apparently slower than one in which exercises are offered ready-made, but it means a growth immeasurably surer and sounder. It guarantees the class-teachers themselves as frank friends and advocates of the arts—eager students of their possibilities, searchers for things "good to make." The natural growth frowns upon the specialist with rounds of practice folds or weaves, seams or joints, and looks more gravely still on forms of construction grafted upon any system merely because such forms are practiced elsewhere or because their product makes a goodly show of what ingenious mechanism can do with children when it tries.

Lastly, the arts should pass from the school into the home. They will help to bridge the inevitable gulf between the two. In our modern city life the school would seek to usurp many functions of the home. It would not only train the child to labor, but would now also essay to train him to play. The play spirit, like the work spirit, grows best in an atmosphere of freedom. The arts respond to the play spirit—they represent pleasure in labor. The best freedom of the school is restricted when compared with the more perfect freedom of the home. Keener individuality is to be developed in the latter, a fuller realization of independence and self-help. The arts in the home become more closely identified with the inner life of the child—the life which the teacher can see as but thru a glass darkly. The home suggests a hundred problems scarcely visible in the atmosphere of the school-room. To the child each of these is of vivid interest. The arts taken over into the home serve to link the school-life to the family life; the class-room stands then for no drill-room, but for a place wherein desired knowledge of plan and process is to be gained. Taken over into the home the arts lend distinct aid in the making of education in school and out one continuous process.

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EDUCATIONAL ORGANIZATION

The Social Unit in Our Public School Systems.

I. THE ORIGIN OF THE SCHOOL DISTRICT.

AT one time or another an institution has appeared, and in the great majority of cases still exists, in almost all of the states of the Union, which is probably the most communistic as well as democratic feature of our political institutions and is certainly the smallest minor civil division of our system. This institution may be called generically the school community in the United States. Its communistic feature is that wealth and occupation are taxed for the support of schools irrespective of the benefit directly derived by the individual owner or laborer and its democratic feature is that the component members of this school community form or originally formed a legislature for school affairs which votes to tax itself and elects persons to manage its affairs during the intervals elapsing between its meetings. It is evident that such a community could come into existence, at least spontaneously, only in an environment marked by the absence of well defined and acknowledged shades of social standing;* for a symmetrical and homogeneous organization of public education, a very democratic process, if left to develop freely, is sadly impeded in a state whose population has in the course of time been segregated into nobility, gentry, trades-people, yeomen, and wanderers in search of work, as in England in the times of Henry VIII. and Elizabeth, or of nobility, professional persons, tradesmen, and peasantry, as in France or Germany before the French Revolution.

There is considerable probability in the assumption that the education of the people first became an affair of political self-government in the Puritan or religious commonwealth of the New World. Every "township" of 50 householders was required to appoint a teacher who was to be paid by the parents or masters of those who received instruction, or by the inhabitants in general by way of supply as "the major part of those who order the prudentials of the town shall appoint." Here for practical purposes is first connected the word township with school affairs.

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*It is noticeable how the exceptions to this remark in past times originally appeared as one passed southward from New England. In Pennsylvania, for instance, the constitution of 1790 contained the following provision: "The legislature shall provide for the establishment of schools in such manner that the poor may be taught gratis." This provision was repeated in the constitution of 1838. Mr. Wickersham refers to the provision as an "objectionable policy of educating the poor as a class." Hist. Ed. in Pennsylvania, p. 276.

In 1636 the general court of Massachusetts gave public sanction to the township, an institution which had become spontaneously the political unit of the colony.** In New England, as a rule, entire communities settled down and erected at once a township, which was not merely an aggregation of human beings nor a mere municipal organization, but a well-defined and represented political entity.† It became a body corporate as well as politic, could possess and dispose of property, could sue and be sued.** But it was a close corporation. Not residence but votes gave membership, and either by law or the force of public opinion every member, or freeman, as he was called, must be a member of the recognized church, and thus voters in church meetings and voters in town meetings were the same persons, until religious test gave way to other qualification. It has been maintained that the town meeting was merely the vestry meeting of the parish of the Anglican church adapted to Puritan needs in the American wilderness. But it must be remembered that there was more than one kind of parish in England at the time of the Puritan emigration to America. "For the purpose of civil government the term 'parish' meant a district separate from the ecclesiastical parish, from the 'highway parish,' and from the civil division called a township,‡" it being especially created in 1601 as a poor-law parish. The lay business of the New England town was not a part of the ecclesiastical proceedings, but the ecclesiastical business was a part of the proceedings of the town meeting, which was a body politic sending representatives to a general court or legislature, which also considered ecclesiastical concerns. Into this town meeting, as has just been remarked, was also carried the—at that date—church duty of education, which thus became a civil instead of an ecclesiastical function as far as English America is concerned. "Education in Europe in the age of the Reformation," says Francis Adams, "was not a civil but an ecclesiastical matter, and its aim was religious, not political."

In America the spirit of the political government of schools has at length spread over the whole country. But as the environment changed in which the idea was first applied it has frequently been modified to suit changed conditions. In general this modifica-

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** Palfrey, Compendious History of New England, Vol. I.

†Lodge, English Colonies in America, p. 414; Palfrey, Vol. 1.

‡ Stubbs, Constitutional History of England, Vol. I., pp. 247-248. 5th ed.; also C. J. Elton, barrister of law, in Ency. Brit. 9th ed., article quoting act of 1866, regulating the interpretation of the word "parish" in the statutes.

tion has been made in one of two forms, one of which is called the "school district system," or more properly the school community system; the other the "township system," or more properly the township school district system. The school district or community system seems to have originated somewhat in this way. As the population of each little nucleus of settlement spread itself out from the center of the original "plantation," it early became convenient in Massachusetts and Connecticut, at least, to allow neighboring families at a distance to form themselves into a school district, and this system so necessary in a growing agricultural community, such as Massachusetts was before the war of 1812, was adopted after years of use,** as the State system by the act of 1789, and was not repealed until manufacturing had restored those concentrations of population which in the early colonial days had invited township control of school affairs. This originated the school district community, which is the form of public school management operated in the greater number of the states.

It is evident, however, that whatever form the exigencies of each particular territorial or economic situation compelled or induced the people to adopt, the success of local self-government in school affairs depends upon the willingness of the constituent individuals of the community to tax themselves for the benefit of their children, and upon their willingness, at whatever cost, to deprive themselves of any immediate pecuniary benefits arising from the sale to others of their children's time or the personal monopolization of it at home; in general, the absence of a narrow or selfish spirit not only in the family but also in community affairs; or, to say the same thing, in other words a spirit of reasonable emulation and compromise. This desire, of course, is dependent on the value attached to education by the parent and in a measure upon the inclinations of the child. As it has been found that some communities are not always willing or able to tax themselves as highly as other and perhaps neighboring communities, a persevering attempt is being made to rectify what is considered to be not a necessity but a defect of the administration of our school systems. The question is largely dependent upon the economic condition of the locality and of the state; in other words, upon the unequal distribution of wealth and upon a general desire to distribute the highest benefits to all, irrespective of the inability of some to pay for them.*

** Martin, Evolution of Massachusetts Public School System, p. 92.

* "No sooner had the towns taken the school-houses than the same people who, in the district meetings had resolutely opposed any improvements, came forward and demanded new houses in the district." (Martin, Evolution of Massachusetts Public School System, p. 209.)

Other than the political and corporate side of the school community there is another which has reference to the territory over which its jurisdiction extends. In Massachusetts the early judicial and administrative relations of the towns were with the central authority called the General Court. For the purpose principally of judicial convenience, the New England colonies were at various times after 1643 divided into counties, the administrative and representative functions of the towns not being interfered with. Like the General Court of Massachusetts, the House of Burgesses (borough representatives) of Virginia was composed of members representing "hundreds and plantations," but in 1634, when the population of Virginia had increased to 5,000 and had spread itself over the land with the view of finding eligible tobacco fields, then shires or counties were created and the burgesses were thereafter returned as representatives of the counties. The community of Virginia was a series of plantations which were indistinguishable from one another inasmuch as tobacco culture gave them the same character by tending irresistibly to promote the constant expansion of the area of each plantation, which thus became in area a small principality containing a squire, his family, and their numerous servants—in short, the Latifundia of the later Roman Empire. In Virginia, therefore, the county is made the unit of administration which was under the jurisdiction of the "commissioners of the county court," with a grand jury to move attention to defects in county administration. In the public lands of the West it is true that the blocks of land that were laid off into counties as they get a sprinkling of population are divided with mathematical regularity into squares of 36 square miles called townships, but it is particularly necessary to note that the New England settlers of these squares of lands are careful to distinguish them from real "towns" by calling them Congressional townships because the survey of the original wilderness was authorized by the act of Congress of 1786.

II. LEGAL AND POLITICAL CHARACTER OF THE SCHOOL DISTRICT.

Altho the law books insist that the school district is a quasi corporation, in almost every state the legislature has specifically made it or its executive body a body corporate and in three states (Ohio, Illinois, and Kentucky**) a body politic and corporate. The circumstance that has caused the law writers to use the term "quasi corporation" seems to be the original formation of the district in New England, where the district school probably was looked

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**In Oregon it has been decided that a school district is a public corporation.

upon as an educational succursal or outlying post of the original "town" school, tolerated as it were by reason of the distance that attendance at the village or "town" school proper would require to be traveled. Thus when a neighborhood built its own school and formed itself into a body for managing its own school affairs without legislative sanction, as was originally in New England the case, it was called a quasi corporation to accommodate the fact to legal necessities.

As beyond doubt the school district is a body corporate, it remains to inquire if it be not as it exists to-day also a body politic. It is admitted at the outset that it is a body established for a special purpose and that it is unrepresented as such in the state legislature. But on the other hand, it embraces all the inhabitants within a series of well-defined areas which together form the area of the state, and tho in some cases it excludes non-taxpayers and in others it includes women, nevertheless practically its voters are the voters of the state. The particular fact, however, that goes to show that the school community is a body politic is the power it possesses of levying taxes, especially for purchasing sites and erecting buildings and its place in the administration of the affairs of the state so far as they relate to school affairs.*

The corporate and political character of the school community having been shown, it remains to point out the several forms which it has assumed. The most widely disseminated form of the school community is the so-called "school district." In this system are found frequently a "school meeting" and always a school board of trustees or of directors, or of education, elected by the voters of the district, in whose hands is placed the administration and the control of school affairs with the exception that teachers who have not received a certificate from a state or county authority may not, in the great majority of cases, be employed, and the local taxation is not always entirely dependent upon the local will. Another characteristic is the changeableness of its boundaries, which may vary from year to year if certain legal provisions are complied with. Such a system as this may be called the district community system to distinguish it from another form of the district which has wholly or in practice inflexible boundaries such as the school district whose boundaries are coterminous with those of the "Congressional township" (of 36 square miles) as in Indiana or in Alabama or with the boundaries of "towns" as in New Hampshire or Massachusetts. Districts having these inflexible boundaries are usually said to have adopted the township system, but as each district or township has a board of education, trustees, or school committeemen to administer the school affairs of the township, the difference between such a system and the district community system must be found in the larger extent of territory under its control and its connection with the other civil authority whose jurisdiction is confined within the same limits as its own.**

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*Of Delaware it is interesting to note that each Catholic congregation or its vestrymen are made a body politic and corporate.

Mr. Martin, in History of the Massachusetts Public School System, in speaking of the evils of the district system, a system which sprang into existence spontaneously about the middle of the eighteen century, remarks: "When the church affairs had been given to the parish, the care of roads and the care of schools to the district, there was little left for the town to do."

From the foregoing it would seem that there are in every state two systems of administration, one for civil and the other for school affairs, tho in both the controlling powers are the same. These powers are (1) the voters (who in the district community system form the "district school meeting", (2) the state legislature who, tho elected by the voters, may not be considered as quite the voters themselves, and (3) the boards of trustees, committeemen, or of education elected by each local community, whether district, town, township, or county, which wholly inaugurates and administers local school business, except where the district meeting is something more than a voting place.** Occasionally an exception is found. In the case of North Carolina the board of county commissioners (a "civil" authority) sits as a "county school board," and in the city of Buffalo the common council administers the affairs of the city public schools, but these instances must be considered lightly. This isolation of the administration of school affairs is not an anomaly in the administration of English-speaking nations from time to time. England was divided into poor-law parishes, land-tax par-

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**Perhaps there is another characteristic feature that distinguishes the two forms of the district system usually pitted against each other as the "township versus the district system." If this be the case the import of the other characteristic is readily inferred from the following:

"The school committee (of Massachusetts towns) are an independent body, intrusted by law with large and important powers and duties; and, altho every discretionary power is liable to abuse, against which no perfect safeguards can be provided, yet we (the supreme court of Massachusetts) are aware of no substantial reason for supposing that the power of fixing teachers' salaries is more liable to abuse by the school committee than by the city council." (Bachelder v. Salem. 4 Cushing, 603, as quoted in 98 Mass , 587.)

In Indiana the supreme court has used the following language regarding the power of a trustee of a school township: "The township trustee is clothed with almost autocratic powers in all school matters. The voters and taxpayers of the township have little, if, indeed, any, voice or part in the control in the details of educational affairs. So far as actual authority is concerned the trustee is the corporation, a'tho in contemplation of law it is otherwise." (Wallis v. Johnson Tp., 75 Ind., 374; Bucknell v. Widner Tp., 73 Ind., 501.)

ishes, burial-acts parishes, and highway parishes, and eventually consolidated into the "civil parish," and in America the administration of poor laws thru overseers of the poor in Massachusetts and New York, but not in the Southern states, presents an analogy.

The two forms of school districts which have been alluded to in the foregoing, one as the school district community system, and the other as the district township or district county school system, as the case may be, are mainly distinguished from each other by their political, territorial, and financial relations to the civil authorities; and in investigating the nature of these differences it is advisable to speak first of the constituency, then of the area of the school district community, which apparently came into being about the middle of the eighteenth century, was legalized in Massachusetts in 1789, and was endowed with the power of taxing itself in 1800. If by way of illustration school township districts are spoken of, it will be understood that the constituency and area of such districts are not being treated of, as they are only the school side of the well-defined "civil" political body and area which it is the purpose of an increasing number of text-books to make understood.

CONSTITUENT MEMBERS.

The constituency of the school district community being in the great majority of cases specifically a body corporate for public school purposes, and as such embracing within well-defined local territorial demarkations practically all the electoral body of the state, it naturally follows that the qualifications for voting at a school meeting should be those required at an election for representatives in the legislature. Such, in general, is the case, tho from the school district being a territorial unit occasionally a provision is found requiring a residence within its boundaries of 30, 40, or 60, or even 150 days immediately preceding the election.

There are, however, two exceptions to the general statement that the qualifications required from the voter in the school district meeting or election are those required of the voter at general state and local elections. One of these is that in a number of states women are allowed to vote, a provision which enlarges the right of franchise, and the other is that a property-holding or tax-paying, or child-having (either as parent or guardian) qualification is exacted, which seemingly restricts the electorate, giving it a tinge of self-protection, as tho the property-holders were afraid to permit their possessions to the rule of the majority. Certain provisions for the endowment of women with suffrage in connection with school affairs are worthy of note. In Kentucky "any widow having a child 6 to 20 years of age, and any widow or spinster having a ward between the ages of 6 and 20, may vote at a school district election." In Michigan and Connecticut no woman, tho 21 years of age, the usual requisite, may be registered unless she can read in the English language. In New Jersey a woman can not vote for the election of members of district trustees, tho she may vote upon all other school questions. The case of New Jersey is an apt illustration of the two bodies politic within the same territorial confines, for at a civil township election a woman can not be permitted to vote, while at a school district election (the school district being a township) she is entitled to vote on all questions except for trustees, to which office, however, she is eligible.

The other occasional departure from the usual course of bestowing the franchise in this country is well stated in the law of Idaho, which recites that "none but actual resident freeholders and heads of families of each school district shall vote at an election [for levying a tax]." That this provision where occurring may not necessarily be made to work any particular injustice may be attested by the character of the law of New York, where every person of full age residing in the district for thirty days next preceding any school district election may vote thereat if he or she owns, hires, or leases real property in such district liable to taxation for school purposes, or is the parent or has the quasi custody of a child of school age having attended the district school for eight weeks within the year last past, or who owns personal property assessed on the last preceding assessment roll of the town exceeding $50 exclusive of exemptions. Frequently the delinquent payer of school taxes is debarred from voting, and in some cases of deciding in regard to borrowing money for building, a mere plurality of votes will not carry the measure at issue.

There are characteristics in the organization of the school community of the South Atlantic and Gulf Coast states, Texas excepted, that mark those communities as an exception. It is extremely doubtful if this phenomenon can be attributed to the social conditions existing in the Southern states which require the maintenance of two systems of public schools. But whatever be the explanation, it seem legitimate to conclude that the school systems of the southeastern and southern coast are systems of state schools, while in Massachusetts, to take the most striking example, the school system is a town [ship] system, tho most freely directed by the legislature to carry out reforms or inaugurate innovations. Five Southern states have a county board as the real local school authority. In one of these (Florida) the county is divided into three districts, and a member of the board is elected from each; in another (Georgia) the grand jury choose the county board; in another (Mississippi) the county board is composed of a member from each supervisor's district appointed by the state superintendent, and in the fourth and fifth the county board is appointed by the governor. The other states of our Southern coast have a county superintendent as the local school authority, who is appointed in Alabama and Virginia by the state superintendent, and in South Carolina (under the old law) is elected by the people. North Carolina has no county superintendent, and its schools are under the authority of its "county commissioners," sitting as a "county board of education." The more local or district authority, as far as it occurs, is appointed by the county authority, except in Mississippi, where the "patrons" elect three district trustees, and in Virginia, where an electoral board, composed of the county judge, commonwealth attorney and county superintendent, elect the district boards for the school subdivision of the county.

AREA.

The "school district" as a part of the earth's surface, is constituted on quite different lines from the "Congressional township," and even from the original "towns" of New England. The area of a school district is a matter of convenience determined by its inhabitants, and its boundaries, judging from the ever-present and numerous provisions for changing them, are readily manipulated. The school district is formed in one of three ways—either offhand by an authority of the county, by petition to such authority by certain inhabitants of the district, and subsequent vote, and finally, by local organization and subsequent notification of the county authority. When the legislature has fixed the boundaries of a district as coterminous with those of a "Congressional township," as in Indiana and Alabama, or as coterminous with those of a "town," as in New Hampshire, the school district system is said, in common pedagogic parlance, to have been abolished and the town system to have been adopted; but the original fact that each school community had but one "district" school must not be allowed to obliterate, another fact that any given amount of territory called a school district may have more than one "district school" if there are pupils enough to warrant them. Nor must it be forgotten that, when the increase of population in a large district called for two schools in one district, the ease with which a school district could be formed naturally invited the formation of a new district from the old one, and consequently a new set of officers was required in addition to the set already in existence.

The effort to minimize the distance which the child would have to travel and the contrary evil of having two or more weak schools is apparent in the legislation of states having the district system. Even in the township school district system a deep stream to be crossed or a difficult road to be followed will sometimes make it necessary to carve out a district irrespective of township lines. The principle of the district system is that the school community immediately served should have charge of its school or schools; the principle of the township system is that a few persons should not have charge of the affairs of the school by which it is served, as it tends to foster petty local animosities, contrariness, and over-economy. The school district meeting is the assemblage of a neighborhood, the township system or "school township district," as it is sometimes called, is the removal of such questions to a more varied assemblage or to a board. When the area of the school district is broadened so as to embrace a large county the assemblage of the school community is impossible and direct legislation by it is out of the question.

Before passing to the consideration of the formation of the two kinds of districts, the rather anomalous case of the State of New York must be noted. The subdivision of that state is done in a manner which distinguishes it at once from the town school system of New England, the district community system of both the Mississippi valley and of New England, and the county system of the Southern states. The legislature has divided the state into school commissioner districts, and each school commissioner subdivides his school commissioner district into common school districts. But no city may be included in any school commissioner district. Each of these two classes of areas, excluding the city district class, is solely a school area, and altho the functions of the school commissioner are probably the same as those of the county superintendent in the South and West, the school commissioner is not a county officer.

FUNCTIONS.

In many states the school meeting is a legislative institution as conclusive in its decisions, so far as untrammeled by the law, as it is regular in its assemblage. Its functions are (or may be): (1) In every case to elect the officers required by law to be elected in order to supervise and accomplish the business of the school district; (2) to provide school accommodations; (3) in many cases to levy tax for the general support of schools, and (4) in some cases to decide questions regarding the administration of the schools of the district. In general, the duties of the meeting are to elect officers, pass upon financial questions, fix the site of school-houses, and vote upon changing boundaries.

The "school meeting" is not a feature of the township district system. In Massachusetts, for example, the town meeting elects the body that manages school affairs. In New Hampshire, however, where the civil town and the school district town are coterminous, there is a town meeting and also a school district meeting, which may be held between the 1st day of March and the 20th of April at the usual place at which town meetings are held. Pennsylvania and other states, whose school districts are townships, have no school meeting in the proper sense of the term, tho elections are held for officers. In Indiana it has been remarked from the bench that the voters and taxpayers of the township have but little, if indeed any, voice or part in the control of the details of township educational affairs, altho in contemplation of law it was otherwise; the voters may petition the trustee to locate a school-house, but he may use his discretion in the matter. Compare the position of the Indiana trustee, whom the court called an autocrat, with the condition of affairs in the time of school districts in Massachusetts, where, in one instance, farmers who never came out at a presidential election came forth with great alacrity during two years to attend ten district school meetings made necessary by a contention as to the proper location of a school-house. WELLFORD ADDIS.

[From a Report of the U. S. Commissioner of Education.]

"The four ages of man." – From an old woodcut in "Dryander," Frankfort, 1542.

EDUCATIONAL TELEOLOGY.

On the Definition of Education.

§ 1. The fundamental phenomenon concerning education is the division of human society into two classes, adults and non-adults or minors.* There is a relation of dependence of the latter (M) on the former (A), and this dependence consists in M's lack of education, *i.e.*, of certain gifts or influences, which we have not yet investigated; for brevity's sake we may denote these by *x*. Our search for a definition of education will involve first a statement of M's needs (leaving ourselves open to revise the terms "gifts" or "influences" employed above, for they may prove inadequate); secondly, the question how much of this need, A, the adult community, can supply.

There is another factor in the situation which we shall require presently to take into account. In modern times a certain section of the adult community have taken up the service of education as their special calling. By indicating these as *a* we shall be emphasizing the standpoint that teachers are not a class apart, but are intimately associated with the entire adult community (A), which, first and last, is responsible for M. Hence we must delay our consideration of the relationship of the teacher (a) to the task of education until we have examined the mutual relations of A and M.

It may be objected that this standpoint leaves out of sight the process called self-education,† and we may be content to exclude it, for we must regard A and M as mutually exclusive. When once we step over the line and proceed to consider the occupations of an individual C, who cultivates his mind by private study, we are passing beyond the limits of educational theory into an inquiry which is in some respects allied to ours, but which needs wholly separate treatment. Self-culture is an admissible term; self-education is not.

Another preliminary difficulty may be removed in order to limit our conception of *x*. We have described it as "a gift" from A to B. We ought to describe it, if we may adopt the apostolic phrase, as a spiritual gift, excluding considerations of food or other physical and social needs, which M as a human being requires. By common consent, the sustenance which is given, by parents or others, to support the physical life of the young is excluded from the idea of education, altho, in England, we are familiar with two cases in which such duty falls to the teacher's lot: in our boarding schools, where the children reside as well as study; and in primary schools in destitute districts, where many children need a "free" meal to save them from famishing while sitting in school.

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* The term minor is not of course employed here in the legal sense, but as a general expression to indicate all who have not "completed their education."

†See Bain: Lecture to the Education Society, 1879.

In making this exclusion, we are not, however, committed to Bain's† view that physical education is to be dismissed from consideration; we cannot decide this point until we have further considered the nature of M; only then shall we be able to decide whether the common distinctions between physical, intellectual, and moral education are admissible: they are often made for the purpose of discussion; it remains to be considered how far they can be separated in practice.

§ 2. Let us further limit our conception of x, by giving it the character of something which is definitely imparted with a purpose, by a deliberate organization. Education is indeed an influence, operating upon the mind, but it is a confusion of terms to include within its range the "natural" influences of society, of the home, or of contemporary culture. It is a common saying that a good home is in itself an education; it would be more correct to say that good homes have always exercised the best influence upon their members, before and since the employment of education as an additional means of influence. We recognize the close relationship between pedagogy, sociology, and politics, and the dependence of all these upon ethics, but they must be kept apart in practice.

§ 3. Turning now to our first inquiry, the needs of M, we have two questions to answer: What class of persons are in this dependent condition, of needing or seeking education from A; and in what terms can we describe their need?

The first question need not detain us long. We can place no superior limit, of age or occupation, which will enable us to say that here education has ceased.

The education of the infant begins at that moment when either a teacher, or the parent acting as a teacher, first adopts measures, on a deliberate and settled plan, for affecting the content or character of the child's mind, as supplementary to the undeliberate, the "natural," development of the child. Obviously we cannot lay down rules, but in any given instance before us we can decide whether the parent's action can be described as educative or not. Thus, if the mother give the infant a toy to handle, she is not, properly speaking, acting as an educator; but, if she selects Froebel's "First Gift" as the toy, she is so acting. We gain nothing by limiting the education to "the young" or to the school; these distinctions are of service only at a later stage, when we come to consider ways and means.

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† "Education as a Science." (Page 3.)

§ 4. The second inquiry, as to the nature of the pupil's need, is more troublesome; upon our treatment of it depends our whole attitude in relation to educational questions. There are two opposing views, each supported by a large popular following, as well as by a school of thought and by legislative act. Ask the first man you meet, and he will tell you off-hand that education is what his boys get at school—arithmetic and Latin, knowledge of all sorts. Very likely, however, if you begin to talk to your friend more fully about his boy, and ask him why he has sent the lad to this particular school instead of to that, you will discover that his preference has been based, not upon the intellectual acquisitions to which his definition was confined, but upon considerations relating to training in character, or else to health. He will tell you that he knows the headmaster of the school, and is sure that he exercises a wholesome influence over the boy's character. "I don't know," he will say, "whether the little fellow is learning much, but I do see that he is growing up to be straightforward and manly, and, after all, this is worth more to him than book-learning." There is evidently a wide difference between this and the previous expression of the pupil's need. This latter is the view of all the great educational reformers, and has been expressed in the most scientific form by Herbart.

The opposite view, expressed in the first chapter of Bain, seems to rest upon the four following arguments, which we will first note and then criticise in order:—(1) In defining the scope of an art, and of the science deduced therefrom, we gain by adhering to a well-defined and universally understood sphere of action. (2) In the present instance this sphere is "the province of the schoolmaster." A imparts, and M receives, knowledge; this is the obvious fact, and nine schoolmasters out of ten will accept it as a proper description of their employment. (3) Altho it is not denied that young persons require other influences and training besides the intellectual, yet it is confusing, if not impracticable, to bring these within the range of educational science. We gain by separating the intellectual from the physical and the moral. (4) In treating of education we secure a special advantage by limiting our range to the acquisition of knowledge; for, if we go further and attempt to include the training of character, we shall begin to quarrel over ethical and theological questions, "which can only be brought into the field of education under protest."* In adding a chapter on moral education, therefore, Bain ventured merely to offer some hints upon a subject which "barely admits of precise demonstration or statement."

§ 5. Let us now consider the four arguments. (1) The plea has weight, but we have the same difficulty in defining the limits of all the social sciences. Economics has refused to submit to the bonds of a narrow definition, and education must also have freedom; we only hinder scientific progress if we sacrifice the truth of facts in order to present our science in a well-rounded form.

(2) We must recollect that the schoolmaster is at present untrained; that is to say, he is pursuing his calling empirically, without reflecting upon ultimate aims; he accepts things as he finds them, and easily acquires prejudices which will oppose the very attempt to seek a foundation for the science of education upon which we are here engaged. He may suppose that he is simply occupied in imparting knowledge; the facts may be, and indeed are, quite otherwise: his pupils' minds are, during these hours of school, subject to many other influences, and are learning, or unlearning, very much beyond the words of the lesson.

(3) The gain secured by contemplating apart the intellectual, the moral, and the physical is largely deceptive. True, in the course of an exposition of any science, we are compelled to distinguish its parts, but we must surely begin with a clear realization of the unity of our subject, and must never lose sight of the essential connection of every part with every other. Whatever we may achieve by contemplating apart the physical, the intellectual, and the moral, they are one in the life. The child is at the same moment exercising its body and all its mental powers; it is merely the limitation of our language and our thoughts which prevents us from picturing this simultaneous action and interaction. Here we stand at the parting of the ways; if our judgment fails here, we open the gates to a flood of pedagogic error. Surely the verdict of psychology, or, rather, of every observant man who looks below the surface of things, is decisive. There is no separation. The child who, at any moment, is being physically educated is at that same moment subject to influences upon the mind and the character. The pupils engaged in studying the life of Samuel for moral and religious purposes are being intellectually and emotionally influenced and

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*Bain, *loc. cit.*, page 4.

are also living a physical life during the same hour: they are being restrained in a sitting position. This restraint is training, and it is, or should be, designed as a part of education; if it is unnecessary or prolonged, it may be harmful—harmful to the mind and to the will, as well as to the body. It will be observed that we have not, by this statement, committed ourselves to any theory as to the teacher's responsibility; so far, we have not discussed the relation of a to A at all. We are by no means prepared to infer, as a consequence of the phenomenon of the unity of life, that any individual teacher or parent is to be held wholly responsible for M's growth in body, mind, and character; the question what A can or cannot do is as yet undecided.

§ 6. Finally, there is the plea (4) that we should limit our definition of education from the danger of transferring the controversy to regions of speculation in ethics or theology. The plea has some apparent force, for every one knows how difficult it is to find a satisfactory statement of moral science which shall serve as a basis in formal applications to conduct. Economics, politics, jurisprudence labor under the same disadvantage; all seek their foundation in ethics, and find it difficult enough to do so. But I venture to suggest that this objection is one that is felt more keenly by the philosopher than by the teacher. Indeed, I would go further, and add that the teacher, by virtue of his position, is forbidden to introduce into the practice of his calling those considerations relating to the aim of life, which ought indeed to play a part in the private thought of every thinking man, but which cannot wisely intrude into a sphere where he acts not alone, but as a member of society.

This position requires further elucidation. We seek to formulate the aim of education by putting into words our conception of the highest result that might be obtained thru the practice of the educator's art under the most favorable circumstances. This we call the educational ideal; just as the statesman has his political ideal, so the teacher has his goal, the end which has to be achieved by the operations which he performs. M will presently cease to be educated, will cease to belong to the class M. What change will x have brought about? Unfortunately the educational ideal is usually expressed in the vaguest terms, corresponding to the vague aspirations after ethical progress with which men are content. On the other hand, the philosophers, such as Herbart, Spencer, and Bain, who have written about education, have, naturally enough, permitted their views of life and society to govern their exposition of the teacher's aim, and some of them, such as Bain, conscious that ethics is a battle-field, have sought to keep pedagogy out of the strife, by a vain effort to exclude their own philosophical system from the discussion equally with that of other thinkers. The reader of Bain will be well aware of this effort, but he will also admit the difficulty of understanding Bain's "Education as a Science" without a familiarity with utilitarian ethics. Herbart, on the other hand, sought to build up his pedagogic system expressly on the foundation of his peculiar ethical ideas.

The issue in both cases was the same—the production of an educational ideal which was out of accord with the actual experience of life. Education is a practical art, and a practical science, dealing not with symbols, A and M, but with real men and women, who are to-day governed by this and that motive, inspired by such and such views of life, entirely regardless of what the philosopher may consider ought to be the motive and the view. One may sketch a variety of schemes of education based—or, as in Bain's system, not based—upon as many theories of ethics, but the only one which will produce result is that which is closely allied to the moral and intellectual forces at work in contemporary society. The others will indeed produce a certain result, the same that is produced by all speculation; they will influence the minds of thinkers, but they will not serve any immediate end in the development of contemporary education. Surely the educational ideal ought to be realistic rather than speculative; it should come "from men's business and bosoms," representing, in their best form, those notions of purpose and conduct which the common understanding of thoughtful men is accepting. If it be replied that no two men think alike, I should content myself with a simple denial; it is true that there is infinite variety in human nature—there is similar variety in plants and stones; the trained observer can subject each to scientific observation. We propose, therefore, to avoid the strife which Bain dreads, not by refusing ethics as a basis for pedagogy, but by contenting ourselves with what we describe as *the ethics of the period.*

§ 7. This standpoint is forced upon us by several considerations. First, the pupils are not ours to do what we like with; they may be regarded as the property of the family or the state, but the teacher has really no claim to be their master, however much he may love the title.

Secondly, the body of teachers, coming out of the people, will reflect in its own person the prevailing ethical standard. There must be a division of labor; the teacher has enough to do in developing pedagogy; he must leave ethics, on the speculative side, to the philosophers; he must be modestly content to seek a groundwork for the education of the period in the ethics of the period.

Further, since the work of the teacher is mainly concerned with immature minds, his task in the training of character is simplified. If the law of evolution prevails with regard to the growth of moral ideas in the child's mind, it is clear that his mind is not fit to proceed beyond the ideas of the adult*; the ethical spirit of a school may well be deeper and more intense than that of "the world," but, if it seeks to be broader, it will fail. Hence it comes about that the burden of school doctrine involves nothing beyond the simple primary elements of ethics, which, if presented by a teacher of men to men, would sound like moral platitudes. Emerson and Carlyle were excellent diet for our fathers, but they were of doubtful value to ourselves before we came of age. Here and there an exceptional young mind will profit by an early introduction to advanced thought, but the normal mind, if it is to grow healthily, must take its time.

§ 8. Two objections present themselves to the proposal for seeking a basis for pedagogy in the ethics of the period. Many teachers will hold that the common notions and ideals of conduct in society are too degenerate to be accepted as a basis for education; they hold that the moral atmosphere of the family, of the school board is unwholesome, and that the teacher's duty is to make the rising generation "come out from it and be separate."

Now, in this matter, every man must judge for himself. We certainly might conceive of communities or schools, or towns or countries, exhibiting a moral standard so low that we could not consent to instruct its children without violating our conscience, or initiating a conflict between school and home. And we must admit that, in many individual cases, homes do offer a low standard, and the children are to be pitied if they fail to experience something nobler in the school.

Teaching, however, is not the only calling in life in which this conflict is felt; it is perhaps a common experience in many trades and professions that a man who determines to hold by the highest demands of ethical law finds it very hard to obtain work. A teacher overwhelmed by the need for moral reform, who determines to train a select few, after his own heart, to be "witnesses" in the next generation, may be doing a great thing for mankind, but he will need

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* Compare, *e. g.*, Arnold, in Stanley's "Life," Vol. II., p. 82.

"Lord Christ's heart and Goethe's brain" if his enterprise is not to end in disaster.

§ 9. Another criticism goes even deeper, for it challenges the morality of the entire transaction, hinting that our contentment with the ethical *status quo* as a basis for education smacks of time-serving, perhaps of dishonesty. This criticism is severe, but it may be easily answered—indeed we have already met it by anticipation. We do not desire to lower the standard of morality; but we do assert that the content, the body of moral ideas found in the school, are and must be in accord with those of the period, expressed and realized, let us hope, in their purest form, but still representing the ethics of the age. The teacher must certainly not inculcate falsehood, but, just as certainly, he must refrain from teaching all that he believes or disbelieves. Instead of denouncing a teacher as a dishonest concealer of his faith, we ought to blame him for impertinent obtrusion of it, if he desires to place before children any special idiosyncrasies of opinion. No man can, in the class-room or elsewhere, extinguish his individuality, but every one can, in the class-room as elsewhere, repress it. My friend, Judge W——, is a life-long abstainer, and believes that to drink a glass of wine is a crime, but he understands how to keep this special moral bias of his away from the court-room.

We "play many parts," and when, just now, I played my part as a teacher of boys, I decided a case of school morals from the standpoint of school ethics (interpreted, I trust, in their best form); presently I shall play my part as a citizen, and I shall cast my vote at the polling-booth, and as a man of my party shall influence others to do the same; yesterday I came to a private resolution with regard to acts of my personal life—and there again I followed a third ethical code, quite different from the rest. The fact is, the difficulties which have surrounded the ethical (and still more the religious) position of the teacher are due mainly to the fact that his calling is the youngest of the professions, and is still identified in many quarters with that of the clergyman. So soon as it comes to be understood that the teacher is a professional man, doing service to the state and to society, we can recognize both his claim and his duty to reserve himself. He can and should exercise the best influence over the character of the young, without a parade of his peculiar opinions. Such, indeed, has always been the instinct of good teachers; but the external pressure of misguided zealots, religious or political, often interferes to force him into another attitude.

The whole question may be illustrated by an example. My little boy has been taught by a man who has been greatly influenced by Ruskin, who abhors usury and detests factories. Now I am delighted to talk with this teacher upon such matters, and am pleased to see him try and exert some influence to raise the standard of morals and of taste in this neighborhood from his special standpoint. I know also that the moral fervor which spurs him to these efforts will not be lost upon his school. But I should greatly object if I found him introducing his special views into the class-room; they would be as much out of place there as they would be in my solicitor's office, where I also expect to find a high standard of morality. But, if my friend, finding that he is not allowed to conduct his propaganda among his boys, complains that he is hindered from exercising moral influence upon them, I should seek to convince him that moral progress—among the young, at any rate—is not effected by the preaching of a new gospel, but by a devoted pursuit of the old one. It was not the children, but the disciples, to whom Jesus taught the lesson of charity; the children's only lesson from the Teacher of Galilee was to be taken up in His arms and blessed. I should urge that the only road to success with young minds lies in understanding young human nature. I would assure him that his boys, whether they come from good or from bad homes, possess a sufficient knowledge of right and wrong as a basis for moral progress, if he will be content to take them as they are, and, starting from their standpoint, to see the will strengthened and the motives purified, without the infusion of crude and half-fermented ideas upon moral or religious mysteries. I should insist that the method of moral and religious influence, equally with that of intellectual influence, must be based on psychology, on a knowledge of child-nature. If he wishes to influence the will of my child, he must first study him, must find out what is his present stock of moral ideas, and how his interests and his motives operate; only from this groundwork can the teacher build up a stable edifice of goodness. If my friend replied that those who exercise the best influence over the young are often the most ignorant of method and have never heard of psychology, I should entirely agree, and be content to point to the analogy of successful empiricism in every calling in which men engage.

§ 10. Our discussion has led us to anticipate to some extent our conclusions as to the functions of a, the teacher, as a section of A, the adult community; but our quest has been simply to discover the needs of M, of the child, as a first step towards finding x, our definition of education. It seems, then, that the child's needs are infinite, for he is a defective human creature on whom no wise effort will be wasted: perfect bodily strength, the highest wisdom, the finest sensibility, the firmest resolution, would not be too great an endowment for him. Our educational ideal is indeed a conception of the perfection of humanity. But this ideal, as we have seen, has to be controlled by the realities of life, by the limited possibilities of our age and our race. A reasonable view of the possibilities of education will not degrade the loftiness of the ideal, but will admit limitations in its achievement in any individual instance, owing to environment and to the deficiencies or hindrances which beset the teacher.

We have now to consider (see § 1) the capacity of A, the adult community, to impart education to assist M towards the attainment of the educational ideal. It might be true that M is capable of progress and willing to receive benefit from A, but it might also be discovered that A, the adult community, has little or no power in the matter, or, if it possesses the power, it may deny its responsibility. Within what limits does this capacity range, and under what forms of organization does A undertake the task? Previous paragraphs have provided us with materials for an answer. We have decided that an element of deliberate effort is essential to a clear conception of education, excluding thereby the powerful but indefinite forces of circumstance and environment. Education is only then begun when some one (from A) sets to work in formal fashion to influence another (from M). Who then, as a matter of fact, undertakes this task? It is no answer to say "the teacher"; we must get behind him and discover his employer. Who are the parties interested in seeing that the class M are educated? We find, as a matter of fact, three interested parties—the family, the church, and the state, including in the last the two forms of civil organization, in local and in national government.

Of the three, the family has evidently the first duty in the matter, not only because the welfare of the child most nearly affects its family circle, but because the child is, finally, an individual; the church and state are also societies representing forms of human organization devoted to the progress of mankind, and, as such, they claim a voice in the control of the gifts and influences which are to be imparted to M, but their claim comes after that of the family.

Note.—The term "church" is of course used as a class name to indicate organized corporations called churches or denominations.

§ 11. Some may question whether the church ought not to be dismissed from consideration for the same reason. There is a popular opinion abroad that the service of the church to education is a thing of the past, and that her duty can now be better undertaken by the state. If, indeed, this opinion were the prevailing one, we should no doubt be obliged to cross off her name from the list of educators, but, so long as the religious corporations maintain the hold which they at present possess in the affection of the great mass of the nation, so long will they, if they desire, make good their claim to a share in education. For it must be admitted that this claim has a foundation in the nature of things. It may be an anomaly for a commercial company to maintain a school, for the two, nowadays, have nothing in common; it is no anomaly for a church to maintain schools (whatever we may think of her wisdom in trying to do so). For, if we admit the needs of the pupil (M) to be unlimited, to embrace in fact every form of mental and moral influence which can be rightly brought to bear upon him, then we cannot question the claim of the church, embodying the mighty influence of religion, to help in supplying these needs. Public opinion is very evidently for the church to exercise its authority indirectly thru teachers who are imbued with the religious spirit, but are not zealots for the glory of the sect. This is in accordance with our improving knowledge of child nature, which shows us how impossible it is for the immature mind to comprehend the mysteries of confessional dogma.

§ 12. In appearance, then, if not in reality, the church is playing a decreasing part; the state, both in appearance and reality, has enlarged its claim. Such a claim rests finally upon one plea: that education is a matter of universal public interest, since the efficiency of each pupil affects the welfare of the whole society. The family and the church being inadequate to fulfil the task of education, the state, as organized society, steps in to supply the lack.

The tendency of the present generation is to enlarge the function of the state, and of the people as creating the state. The effect upon education, if the tendency be unrestrained, will not be an unmixed good; for the state is careless of the individual; it tends to create huge machinery under which individual idiosyncrasies are ignored—and, if possible, crushed. The remedy cannot be found any longer in the church; we must look to the family to restore the balance.

In order, however, to complete the conception of a trinity of powers controlling the teacher, let us recall the condition noticed in

§ 2: the family, the church, and the state are only doing proper educational work when they are consciously and formally employing and directing the efforts of a teacher. There is very much in the work of all of these which might be called educative, but it is better to exclude it from our purview. The family trip to the seaside, the football club, the political meeting, are all called educative, but they are not a part of education, nor are free libraries or people's parks.

We see, then, that A fulfils its function towards M thru various organizations, political, religious, or domestic, and that these organizations now employ and control a separate class (a) of teachers, who are set apart for the special purpose. It is true that all teachers are not members of this separate class, for many others besides the professional teacher give deliberate aid towards the child's development. These we may describe as lay or amateur teachers, using the epithet without any hint of contempt.

§ 13. Our final question deals with the limits to A's capacity; how much of the whole mental and physical need of M can A pretend to supply? The question is especially important because of the scepticism, shared by the majority of parents in English-speaking countries, as to the value of education. The newer psychology describes man to us as a self-developing creature, a personality apart; and the pessimist tells us that we can do little for him beyond what we do for plants, keeping the child out of mischief during the years of growth: the teacher's occupation being, in fact, little more responsible than that of a nursemaid who keeps an infant from the fire. This criticism need not detain us here; science supports experience in a moderately sanguine appreciation of the school; it declares that the minds of human beings are influenced by their environment, and, as a part of this, by the deliberately calculated influence with which the teacher operates. The consideration may only serve to shape our definition by suggesting the use of some such term as molding or developing the self-activity of our pupil, as a substitute for the popular but less accurate conception of the teacher as imparting gifts or as training faculties.

But the question now raised, as to the capacity of A to supply M's needs, seems to give an advantage to writers like Bain, who desire to restrict the teacher's province. They point out the impossibility of one man caring for the whole life of a pupil; it is enough for him to look after the attainment of knowledge—let the body and the character be the care of others. By such a division of labor, they argue, you will increase the efficiency of the teacher, and popular opinion will appreciate him at a higher rate, for it will perceive that he actually performs the limited task allotted to him. We have already sought to controvert this view by appealing to the unity of human nature, to the interdependence of all its parts; we can now only yield to our opponents to a slight extent by admitting that workers in all fields must nowadays specialize, and that, altho the teacher should keep his attention upon the whole growth of his pupil, he does mainly come into contact with his pupil and influence his growth during the hours devoted to teaching. But, while so far admitting the facts in accordance with the usual practice of the present day, we must entirely avoid using terms which would exclude physical and moral effects from the list of influences produced by the teacher during these hours of school. Above all, we deny, with Herbart, that the acquisition of knowledge is an end in itself; we believe in the power of school instruction in so-called secular branches to produce moral effects; we adopt as our watchword the Herbartian motto "*erziehender Unterricht*"—instruction that makes for character.

§ 14. We are now prepared to formulate a definition of education as follows:—The adult portion of the community, organized in the forms of family, the state (local and national), the church, and various miscellaneous associations, desires to promote the well-being of the rising generation. This it seeks to do by the employment of certain deliberate modes of influence, as an addition to the inevitable influences of circumstance and environment that operate upon all human life. These specific influences are called education, and those who exercise them (whether professionally or incidentally) are called teachers.

In modern times the care of the intellect has come to be regarded as more especially the province of the teacher, since other needs of the rising generation, physical and moral, are provided for, more or less adequately, apart from education. This narrower province is called teaching, but a complete view of the teacher's functions cannot be limited by the scope of this term, since the teacher is compelled to recognize, first, the claim of the young to be educated on every side of life, and secondly, the nature of man, which exhibits itself as a united whole, displaying simultaneous self-activity, which can be directed, but not separated into a collection of powers or faculties. J. J. FINDLAY.

(Adapted from an article contributed to the London *Journal of Education.*)

EDUCATIONAL CLASSICS.

Froebel on "Home and School."

IN the home the child grows up to boyhood and school age; therefore school should [grow out of and] join itself on to the home. To-day, the first and most indispensable demand of human development and training, complete, or tending to completeness, is *union of instruction with life; union of home- and school-life.*

The welfare of mankind can be restored only from the quiet private sanctuary of home. At the founding of each new family, our heavenly Father, eternally working for the good of mankind, speaks to the parents thru the heaven He has opened in their hearts. The same call goes forth to all mankind, to every individual, to represent humanity in pure development, man in his ideal form.

Shall we, then, always choke up afresh the well of life which God has made to spring up in man's soul and spirit; in every one's heart? Shall we rob ourselves, our children, our pupils, of this unutterable joy, that within their hearts shall flow the spring of eternal life? Will you, parents and guardians, continue to compel educators and teachers of your children to dam up with rubbish, the source of life in them, and to hedge it round with thicket? [This "damming-up the spring of life with rubbish, and this fencing-in with thicket," is meant as an easily intelligible metaphor for the ordinary school-work, that stupefies in place of brightening the scholar; makes him *hate* learning and Science, in place of finding it "more musical than is Apollo's lute."]

Parents reply: "Unless thus equipped, our sons are good for nothing in the world; they grow up, and who is to feed them? Wherewithal shall they be clothed?" Fools! You shall not be answered; "Seek ye first the kingdom of God;" for that you would not understand, estranged as you are from God and yourselves. This is the reply: "Do you desire for your children, a dull brooding life, poor in knowledge, deed, and work?" The human race is to enjoy wisdom and intelligence, to possess energy and activity, far beyond what we at present guess.

DIRECTIONS WHICH TRAINING SHOULD TAKE:

1. To awaken, nourish, and strengthen the religious sentiment, which keeps the human heart in union, and unites it ever more

closely, with God. . . . In Accord with, and as *Means* to this:

2. To get by heart religious sayings, upon nature and man and their relations to God, to be used in prayer: as a mirror, in which the boy may behold his original feelings, guesses, and endeavors after union with God, and thus hold them fast.
3. Care, knowledge, and exercise of the body as bearer and instrument of the mind; this, by means of orderly, graduated practice, leading to bodily perfection.
4. Contemplation and observation of nature and the outer-world; joined to, and starting from, what is close at hand; seeking always knowledge of the nearer environment before proceeding to the more distant.
5. Acquirement of short poems, representing nature and life; pieces which give life to objects of nature near at hand, and to events of home-life; and show the meaning of these, as in a bright mirror; especially with help of singing.
6. Exercises in language and speech; setting out from observation of nature, and the outer-world, but passing on to contemplation of man's inner-world: always keeping chiefly in view language and speech as audible means of representation.
7. Exercises in, and for, material representation, by law and rule, proceeding always from the simple to the complex. Hereto belong representations by materials, already more or less formed; as building, and all constructive handwork: works in paper, pasteboard, wood, &c. Lastly and specially, shapes made out of unshaped but shapeable matter [clay, wax, &c.].
8. Exercises with lines upon a surface, in constant, express and visible reference to the vertical and horizontal directions. . . . That is, *drawing-in* the network, according to rule.
9. Perception of colors, in their difference, and likeness: with representation of them in given spaces, preserving certain form: painting of pictures in outline, on paper ruled in network.
10. Play; that is, voluntary exercises and representations of all kinds.
11. Narrating of histories and legends, fable and fairy-tales, adapted to events of the day, the seasons, real life, &c.
12. Short journeys and long walks.

USEFUL OCCUPATIONS.

(His special point being that home and school-life should work together, in the boy's training, Froebel points out that the matters above specified should be shared between domestic and scholastic occupations: he suggests employing the boy in errands or messages which will task his judgment, and require concentration of thought; perhaps, having him directly instructed by craftsmen, or cultivators, in their arts.)

For boys towards the close of boyhood, it is most important to spend steadily at least an hour or two daily in some material occupation; in occupation that produces something useful. Weighty good results for their future life would follow: for a most hurtful effect of our present school-arrangements, especially of the so-called classical schools, is, that the boy when entering them leaves behind all home-occupations, all useful work.

Genuine experience teaches that intellectual occupation, alternating with bodily work, with employment for useful production, strengthens not the body alone, but yet more the intellect, in the various directions of mental activity. After such a refreshing labor-bath—I know no better name—the mind will set about its abstract work with new force and liveliness.

Referring to "Learning by heart of little poems, which express nature and life, especially accompanied by song," Froebel says: "Nature and human life speak early, to man, in their events: but in so low a tone that the boy's unpracticed ear can scarcely perceive them, still less put them into his own language. Seasons and day-times come and go: spring, with her buds and blossoms fills man—while yet a boy—with joy and life; autumn with her falling leaves gives him longing and regret; and stern winter, a sense of hardship overcome, which he would sadly miss. These dim feelings, and many like them, native to childhood, are not to be neglected, but recognized and cherished. Life—our adult life—would be far poorer and emptier than it is, but for the well of feeling that first opened up, in childhood and youth."

Nature and life speak to man, but that is not all. Man himself wants to make known the emotions, the presentiments, thus awakened in him, and as he cannot always find words for himself, words should be given him, as his heart, and his inner sense, in their unfolding, ask for. What binds man to man is not external only, nor can it be too easily expressed. It is full of deep sense and meaning; and its soft chords must be early cherished in the boy, not by direct precept which is apt to fetter and drill, rather than give life. Suggestion, in the mirror of a song, without pointed moral application, leaves the boy that freedom of heart and will which is needed to strengthen and develop his affectional and moral nature.

Upon practice of material representation in space, under rule and law, proceedings from simple to the complex, Froebel says, his expression being somewhat condensed.

Man is developed and formed for the attainment of his true destination, in part by what he, as a boy, receives from without and takes *into* himself; but, incomparably more thru what he unfolds and represents *out of* himself. This truth is, of course, expressed in the very words, *development* and *improvement*. Experience and history teach, that the human beings who have been most truly and deeply helpful to genuine human welfare, became so, far more by what they produced out of themselves than by what they took in from without.

As, too, the perceiving and grasping of a truth, by the way of life and action, is far more unfolding, forming, and strengthening, than the mere reception of it in word and idea: so, likewise a forming by and in matter, in life—by doing, connected with thinking and speaking, is far more helpful for man's development and improvement, than is representation by ideas and by word, without act or deed. Instruction in methods of representing in and by matter, follows observation of nature, and practice in language.

The boy's life and action have, we know, but one aim: his life consists in this external representation of his inner nature, his force, specially in and by matter. In that which he shapes, the boy sees not so much, outer forms which should enter into him; he sees in them his own spirit, the laws and activities of his own mind—and rightly so. The function of teaching and instruction is, more and more, to bring *out of* man, rather than put *into him*. . .

That which *can* be put into man is—properly speaking—*there* already: man knows it, if the individual does not: thus it is no more than each one will, by-and-by, thru the laws of humanity, unfold out of himself. But, what is yet to be developed *out of* humanity; what more the essence of humanity possesses, and ought to give out—*that* we know not yet; *that* is not yet man's possession! We only know that man's essence, like the Spirit of God, is eternally unfolding.

The welfare of the individual and of the race consists in the complete natural and reasonable unfolding of the human-being and his spiritual forces, according to the laws of nature and of reason.

CONCLUSION.

If we endeavor to bring to a focus the aim and amount of development which man has acquired, by the unfolding method of education and instruction as hitherto described, we distinctly see that the boy is come to the knowledge of his independent spiritual self; *or*, he feels and knows himself to be a spiritual whole. The capacity has been formed in him to perceive a whole, in its unity and variety. There has begun to grow in him ability to represent a whole in its necessary parts; to realize himself—his essence—in its unity and in the manifoldness of its being, by means of variety external to it. Thus, we recognize the human-being, at the beginning of boyhood, as capable of what is highest and most important; the fulfilment, viz., of his destiny, or function; which is, to realize the divine nature in him. The subsequent life of man from boyhood on, is dedicated to making this capacity grow into sure skill—into consciousness—into insight and clearness—into a freely arranged life.

Selections from the Writings of Horace Mann.

HENCEFORTH, so long as I hold this office, I dedicate myself to the supremest welfare of mankind on earth.—(Horace Mann's Diary, the day he began his work as Secretary of the Board of Education.)

. . . Let education, then, teach children this great truth, written, as it is, on the fore-front of the universe, that God has so constituted this world, into which He has sent them, that whatever is really and truly valuable may be possessed by all, and possessed in exhaustless abundance. . . .

. . . If I had fallen into errors, no one could have been more rejoiced than myself to have them pointed out, for I regard the man who detaches an error from my mind as more my benefactor, than he who should extract a cancer from my vitals; and if friends are so faithless as not to disclose one's faults, it is almost worth while to have an enemy to expose them. . . .

. . . It did not at all enter into my present purpose as a motive, and yet it is a fact not unworthy of remark, that the present year (1847) completes the second century since the Free Schools of Massachusetts were first established. In 1647, when a few scattered and feeble settlements, almost buried in the depths of the forest, were all that constituted the colony of Massachusetts; when the entire population consisted of twenty-one thousand souls; when the external means of the people were small, their dwellings humble, and their raiment and subsistence scanty and homely; when the whole valuation of all the colonial estates, both public and private, would hardly equal the inventory of many a private individual at the present day; when the fierce eye of the savage was nightly seen glaring from the edge of the surrounding wilderness, and no defence or succor was at hand; it was then, amid all these privations and dangers, that the Pilgrim Fathers conceived the magnificent idea of a Free and Universal Education for the People; and, amid all their poverty, they stinted themselves to a still scantier pittance; amid all their toils, they imposed upon themselves still more burdensome labors; amid all their perils, they braved still greater dangers, that they might find the time and the means to reduce their grand conception to practice. Two divine ideas filled their great hearts, —their duty to God and to posterity. For the one, they built the church; for the other, they opened the school. Religion and Knowledge!—two attributes of the same glorious and eternal truth, —and that truth, the only one on which immortal or mortal happiness can be securely founded.

As an innovation upon all preëxisting policy and usages, the establishment of Free Schools was the boldest ever promulgated, since the commencement of the Christian era. As a theory, it could have been refuted and silenced by a more formidable array of argument and experience than was ever marshalled against any other opinion of human origin. But time has ratified its soundness. Two centuries now proclaim it to be as wise as it was courageous, as beneficent as it was disinterested. It was one of those grand mental and moral experiments whose effects cannot be determined in a single generation. But now, according to the manner in which human life is computed, we are the sixth generation from its founders; and have we not reason to be grateful both to God and man for its unnumbered blessings? The sincerity of our gratitude must be tested by our efforts to perpetuate and improve what they established. The gratitude of the lips only is an unholy offering.

In surveying our vast country,—the rich savannas of the South, and the almost interminable prairies of the West,—that great valley, where, if all the nations of Europe were set down together, they could find ample subsistence,—the ejaculation involuntarily bursts forth, "WHY WERE THEY NOT COLONIZED BY MEN LIKE THE PILGRIM FATHERS?"—and as we reflect, how different would have been the fortunes of this nation, had those states,—already so numerous, and still extending, circle beyond circle, been founded by men of high, heroic, Puritan mold;—how different in the eye of a righteous Heaven, how different in the estimation of the wise and good of all contemporary nations, how different in the fortunes of that vast procession of the generations which are yet to rise up over all those wide expanses, and to follow each other to the end of time; —as we reflect upon these things, it seems almost pious to repine at the ways of Providence; resignation becomes laborious, and we are forced to choke down our murmurings at the will of Heaven! Is it the solution of this deep mystery, that our ancestors did as much in their time, as it is ever given to one generation of men to accomplish, and have left to us and to our descendants the completion of the glorious work they began?

. . . But sometimes, the rich farmer, the opulent manufacturer, or the capitalist, when sorely pressed with his legal and moral obligation to contribute a portion of his means for the education of the young, replies,—either in form or in spirit,—"My lands, my machinery, my gold, and my silver, are mine; may not I do what I will with my own?" There is one supposable case, and only one, where this argument would have plausibility. If it were made by an isolated, solitary being,—a being having no relations to a community around him, having no ancestors to whom he had been indebted for ninety-nine parts in every hundred of all he possesses, and expecting to leave no posterity after him,—it might not be easy to answer it. If there were but one family in this western hemisphere, and one only in the eastern hemisphere, and these two families bore no civil and social relations to each other, and were to be the first and last of the whole race, it might be difficult, except on very high and almost transcendental grounds, for either one of them to show good cause why the other should contribute to help to educate children not his own. And perhaps the force of such an appeal would be still further diminished, if the nearest neighbor of a single family upon our planet were as far from the earth as Uranus or Sirius. In self-defence, or in selfishness, one might say to the other, "What are your fortunes to me? You can neither benefit nor molest me."

. . . The distinctive and substantial difference between a republic and a despotism consists in the sovereignty or the subjection of the people composing them. There may be the form and theory of an arbitrary government, while the nominal possessors of power feel constrained to yield continual deference to the popular voice. On the other hand, there may be a written constitution, and all the administrative forms of a free government, while a portion of the people are incapable of understanding a single one of all the momentous questions which are submitted to their decision,—a portion, therefore, as much governed by others, in all the votes they give, in all the dogmas they take up, and in all the party watchwords they shout, as the subjects of the sternest despotism are governed by their hereditary masters. The means of government may be different, but the abjectness and servility of the governed are as real in the one case, as in the other; and the factionist or demagog who inflames or wheedles, is as irresponsible as the lord who commands. Now, in a republic, the number, or proportion, of this class, who never think for themselves, and who therefore always act at the dictation of others; and who, as a necessary consequence, fall, by force of their own gravitation, into the hands of selfish and profligate men,—this number may go on increasing from year to year, until they become a majority of the whole; or, at least, until, in all cases of emergency, they hold the balance of power, while the forms of the republic may remain unchanged,—nay, these very forms may be converted into a more efficient engine than ever before existed for wielding the selfish and irresponsible power which is the most execrable element in despotism itself. One after another, intelligent and conscientious men may drop out of the ranks, and their places be supplied by those whom ignorance and imbecility have prepared to become slaves, until, by a transition so gradual and stealthy, as to excite no alarm, the nominal republic may become an actual oligarchy,—a government of a select few, not, however, the selected best, but the selected worst. There is no antidote or preventive against such a national catastrophe, but in the education of the whole people.

. . . Travelers inform us, that in some of the vast deserts of the eastern continent, the course of the wayfarers across the trackless waste is marked by the bleaching bones of mighty caravans that had perished on their way, in traversing the desolate expanse. Spread out upon the arid sands, or heaped in mounds, these relics of the dead give warning of the dangers by which they had been overwhelmed. The pilgrim troop, or merchant company, as they pass along and behold these eloquent memorials of others' fate, are admonished to press on with vigor, that they may reach the place of safety. Even thus, along the track of time, for thousands of years, do historic memorials,—like vast monumental piles, upon the right hand and upon the left,—make known to us the causes of the decline and fall of ancient and of modern republics. They fell thru the ignorance and debasement of the people that composed them. But for these, Greece, having revivified her spirit by the genius of Christianity, and turned her Pantheon into a temple of the living and true God, might, to this day, have spread far more than her ancient happiness and splendor over those beautiful regions where now the Mahommedan bears sway; and, but for these, Rome might have adopted the principles of that purer faith which was preached to her by the Apostle to the Gentiles, and saved the world from the thousand years of unspeakable horrors, which the Dark Ages inflicted upon it. Happy will our young Republic be, if, forewarned by the perdition of others, she avoids their fate by avoiding the causes that incurred it.

. . . The object of the Common School system of Massachusetts was to give to every child in the Commonwealth a free, straight, solid pathway, by which he could walk directly up from the ignorance of an infant to a knowledge of the primary duties of a man; and could acquire a power and an invincible will to discharge them. Have our children such a way? Are they walking in it? Why do so many, who enter it, falter therein? Are there not many who miss it altogether? What can be done to reclaim them? What can be done to rescue faculties, powers, divine endowments, graciously designed for individual and social good, from being perverted to individual and social calamity? These are the questions of deep and intense interest, which I have proposed to myself, and upon which I have sought for information and counsel. . . .

. . . The education of the whole people, in a republican government, can never be attained without the consent of the whole people. Compulsion, even if it were desirable, is not an available instrument. Enlightenment, not coercion, is our resource. The nature of education must be explained. The whole mass of mind must be instructed in regard to its comprehension and enduring interests. We cannot drive our people up a dark avenue, even tho it be the right one; but we must hang the starry lights of knowledge about it, and show them not only the directness of its course to the goal of prosperity and honor, but the beauty of the way that leads to it.

In some districts there will be but a single man or woman, in some towns scarcely half a dozen men or women, who have espoused this noble enterprise. But whether there be half a dozen or but one, they must be like the little leaven which a woman took and hid in three measures of meal. Let the intelligent visit the ignorant day by day, as the oculist visits the blind man and detaches the scales from his eyes, until the living sense leaps to the living light.

Let the zealous seek contact and communion with those who are frozen up in indifference, and thaw off the icebergs wherein they lie imbedded. Let the love of the beautiful childhood, the love of country, the dictates of reason, the admonitions of conscience, the sense of religious responsibility be plied, in mingled tenderness and earnestness, until the obdurate and dark mass of avarice, ignorance, and prejudice shall be dissipated by their blended light and heat. . . .

. . . The Board, therefore, have no voice, they have no organ, by which they can make themselves heard, in the distant villages and hamlets of this land, where those juvenile habits are now forming, where those processes of thought and feeling are, now, to-day, maturing, which, some twenty or thirty years hence, will find an arm, and become resistless might, and will uphold, or rend asunder, our social fabric. The Board may,—I trust they will,—be able to collect light and to radiate it; but upon the people, *upon the people,* will still rest the great and inspiring duty of prescribing to the next generation what their fortunes shall be, by determining in what manner they shall be educated. For it is the ancestors of a people who prepare and predetermine all the great events in that people's history; their posterity only collect, and read them. No just judge will ever decide upon the moral responsibility of an individual, without first ascertaining what kind of parents he had;—nor will any just historian ever decide upon the honor or the infamy of a people, without placing the character of its ancestors in the judgment-balance. If the system of national instruction, devised and commenced by Charlemagne, had been continued, it would have changed the history of the French people. Such an event as the French Revolution never would have happened with free schools. The mobs, the riots, the burnings, the lynchings, perpetrated by the *men* of the present day, are perpetrated because of their vicious or defective education when children. We see, and feel, the havoc and the ravage of their tiger-passions, now, when they are full grown; but it was years ago that they were whelped and suckled. And so, too, if we are derelict from our duty, in this matter, our children, in their turn, will suffer. If we permit the vulture's eggs to be incubated and hatched, it will then be too late to take care of the lambs. . . .

(To be continued.)

A valuable piece of educational research, says the Boston *Transcript*, would be comparative study of a number, say ten thousand, of ordinary letters written fifty years ago, with a similar number of epistles dated in this year of grace. What the results would give, no man of course may predict, but it may be strongly suspected that the investigation would reveal that good spelling, grammar, and composition were rarer accomplishments in 1853 than in 1903. The increased demand for good English is what makes its scarcity more strikingly apparent to-day than it was in former years.

EDITORIAL NOTES.

Mr. George H. Cockburn, a member of the Mosely commission which recently visited our schools, left us before his return to England a timely word of suggestion which is well worth pondering. He found that Americans are too lavish in their expenditure for school buildings and that some of the money thus spent might be more advantageously employed in raising the salaries of the teachers. He found, and in this the members of the Mosely commission were almost unanimous, that we have not enough men teachers. While feeling satisfied that there should be a preponderance of women teachers for pupils under fourteen years of age, he was assured that pupils beyond that age should be taught by men. The dearth of men teachers had been explained to him as due to the low salaries paid. As a man of affairs well acquainted with the condition of teachers, he was convinced that the salaries paid men teachers in America are altogether too low. Salaries here, he said, are about the same as those paid in England, but across the sea the expenses are much lower than here. That is why he advised a little more consideration for the needs of the teacher. The burden for the beautifying of the schools ought certainly not to be placed wholly upon the teachers. We thank Mr. Cockburn for placing the matter squarely before the people of this country.

Among the many good things that the past year brought to the editor, he is especially thankful for the many encouraging letters from subscribers. There has been criticism of course. But that is what is wanted for closer adaptation to the actual needs of the readers. The letters telling of specific instances where EDUCATIONAL FOUNDATIONS has proved helpful have been particularly appreciated.

Thus one superintendent wrote: "Your magazine has opened my eyes to the larger aspects of education, and my teachers and their pupils have been made the happier by my awakening."

A former country teacher writes: "I had lost courage and intended to take up the study of law when your magazine came to me and taught me that great work can be done in education. I studied faithfully the contents of every issue and passed, with high standing, a principal's examination. My present place pays double the salary I had a year ago."

In all state examinations, and especially also in New York city, where the requirements in pedagogical subjects demand something more than a smattering of pedagogical terminology and a superficial acquaintance with professional stock phrases, the earnest students of EDUCATIONAL FOUNDATIONS have invariably won high rank. Several friends refer in their letters to the help received in their preparation for these tests.

Among the educational leaders are several who have assured the editor of the interest with which they read every number. One man, to whom the country is greatly indebted for the working out of the vacation school idea, called upon him yesterday to tell him how he came to subscribe. "I was the guest," he said, "at the house of the principal of a large New York city school. One evening I picked up from his desk a number of your present volume and read it with such interest that I decided then and there that I could not afford to do without EDUCATIONAL FOUNDATIONS."

The principal of an important grammar school whose opinion is highly valued writes: "It seems to me that EDUCATIONAL FOUNDATIONS is better this year than ever before, and I have taken it since its first issue. Of all the educational periodicals that come to my table this little magazine is probably the most helpful to me."

A trainer of teachers in the South writes: "The course in FOUNDATIONS is so very good that I have asked all my classes in education to subscribe. I owe it largely to the strength received from former volumes of your magazine, that I am enabled to do my share in the training of teachers. While I read many educational papers I have received the most real solid help from yours."

Of course occasionally there comes a letter finding fault. One which is especially critical begins, "EDUCATIONAL FOUNDATIONS is the driest thing I know of," and goes on to explain that the teachers with whom the writer is associated all share his opinion. On looking into the matter it was found that the teachers expected to obtain the regulation devices and other milk for babes. Is it strange that these teachers receive so low a salary that the subscription price is a matter of such serious importance with them that their disappointment is keen? Teachers who do not want to enter upon a serious study of education should subscribe for some other periodical. EDUCATIONAL FOUNDATIONS has mapped out for itself a particular problem and cannot make room for catch-penny material.

It is well that the friends of this magazine should keep its purpose in mind. There is a long list of so-called educational papers whose subscription list is built up by the supply of ready-made recipes for immediate application in school work. They serve a useful end at the present stage of professional development among teachers. This magazine, as its name indicates, deals primarily with the fundamentals, seeking to enable the student to devise his own recipes and be his own master.

The series of articles on Greek art came to a close in the December number. The editor expects to have, before the end of the present volume, an article or two on Roman art, in order to complete the outline of the classic period. Meanwhile he is trying to comply also with requests for discussions of the character of Greek life in ancient times. The larger plan which he hopes to complete in 1905 is to supplement the history of Greek art already published, by outlines of Greek literature and the general history of Greece. In this frame the history of Greek education, which is to follow, will have a richer meaning than it would have without these introductory studies. Professor Mahaffy's work, which is the best that is accessible in the English language, will supply the basis in the greater part of the course. A study of Socrates by the editor will conclude the series.

Partial List of Contents Planned for February Educational Foundations.

The Teacher as Artist,
Dr. J. F. Reigart, professor of pedagogy, University of Cincinnati.

The Training of Teachers for Elementary Schools,
Dr. W. S. Sutton, professor of pedagogy, University of Texas.

Essential Constituents of all Education,
Dr. Chas. W. Eliot, president of Harvard University.

The Socratic Method of Teaching,
Dr. John Adams, professor of education, University of London.

Education Through Nature Study,
Dr. John P. Munson, professor of biology, Washington State Normal School.

The Newer Meaning of the Course of Study,
Supt. W. H Elson, Grand Rapids, Mich.

Rewards and Punishment in School,
Report of Discussion at London College of Preceptors.

On Teaching Reading,
Dr. J. B. Calkin.

STUDY SYLLABI.*

School Discipline.

I. General Law: The unity of the pupil with the school organism.

A. Unifying qualities in the teacher. (*The mind of the teacher and of the pupil must meet.*)

- 1 System.
  - a A time for everything.
  - b A place for everything.
  - c Everything in its time and place.
- 2 Energy.
  - a Quiet—active.
  - b Always a reserve force.
- 3 Vigilance.
  - a Knows his school.
  - b Prevents disruption.
  - c Encourages self government.
- 4 Will power. (Not wilfulness.)
  - a Define—Its function.
  - b Self control—eliminates anger and antagonism.
  - c Self confidence—gains confidence of pupil.
- 5 Culture.
  - a Of mind—not priggishness.
    - (1) Begets a desire to learn.
  - b Of manner, treatment, dress, character.
    - (1) Respects the child.
    - (2) Wins the child's respect.
    - (3) Culture contact.
  - c Of voice and eye.
    - (1) The voice well modulated, the eye alert and confident.
    - (2) Communicates culture to the child.
- 6 Heart power.
  - a Genuine character worth.
  - b Love for your work.
  - c Love for your pupil.
- 7 Teaching power.
  - a Ability to enlist and direct energies.
  - b Interested in educational problems.

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*See note under this department last month.

c An educational tone.
3 Managing power.
a A man among men.
b Everything turned to advantage.

B. Unifying qualities in the school. (*The pupil is a part of the school organism unity.*)
1 The school as a whole.
a School exercises.
(1) Singing.
(2) Physical exercise.
(3) Devotional exercises.
(4) Combined movements. (Caution—no machinery for machinery's sake.)
2 Classification. (Grades.)
a Its basis.
b Promotions.
(1) When? (2) Why?
c Exceptions.
d Individual instruction in classes.
e Does the process of "finding the pupil" necessitate individual instruction?
3 The program.
a Must be established.
b Must be established scientifically.
(1) The fatigue point in children.
(a) Weariness is a sign by which nature gives notice that strength is disappearing and that tissues must be rebuilt and restored.
(b) Distinction between weariness and "chronic weariness."
(c) The child should be required to do no more than that which he can do without over exertion, *and which will gradually develop additional power from day to day.*
(2) Fatigue hours.
(a) Retentive power.
A. M. First hour, 89%; last hour, 63%.
P. M. First hour, 75%; last hour, 77%.
(b) Correct order: Arithmetic, elementary science, reading, drawing, geography, history.
(3) Fatigue remedies.
(a) Recitation and songs.

(b) Pure air.
(c) Change of subject.
(d) Industrial work and physical exercise.
(e) Proper temperature.
(f) Avoidance of worry.
c Provides for both study and recitation of each lesson.
1 The study class. (Pupils in active unity.)
a Adjustment of condition of pupils.
(1) Between recitation periods. Secure physical comfort. All things needful for work.
b Assignment of work.
(1) Connections made for pupil's apperception.
(2) Assignments definite.
(a) Oral.
(b) Written upon board.
c Pause for class concentration.
d No interruptions from study class.
2 The reciting class. See The Recitation.)

C. Restoration of Broken Unity.
1 Law: "The pupil who breaks the unity of the school organism must by his own act of mind, restore it."
2 The principle of anarchy.
"The true self is the private self." "*Anarchy is the apotheosis of the private self.*"
3 The principle of the organized social unity.
"The true self is the social self."
4 The aim of school government.
"The development of the pupil's higher self and the subordination of his lower self."
5 The means. "The subordination of the lower self to the higher self in the life of the teacher."
a Through the pupil's desire to be like his teacher. Unity through idealism.
b Through the pupil's imitative nature.
6 Application of the law.
a Not what the teacher will do about it, but what will you (the pupil) do about it.
b The unity can never be restored until the pupil restores it.

c "In the effort to restore unity through punishment the teacher too often widens the chasm." The pupil never should be driven out of the unity.

d Punishment must naturally follow the offense and be *proportionate* to it.
  (1) No retribution.
  (2) Only to reestablish unity.

e "The offense is in the will, the choice, of the pupil, and not in the external deed."
  (1) Differentiate.
    (a) The boy who plays truant.
    (b) The boy who wishes to play truant and dares not.
    (c) The boy compelled to stay out but who wishes to be present.
  (2) Since the offense is of the will, the whole aim of the punishment must be to get the will to repudiate its act.
  (3) Until such a repudiation is brought about the pupil should feel that he is severed from his school unity.
    (a) Reproof.
      General.
      Private.
      Public.
    (b) Privation of privileges.
      To follow and be measured by the nature of the offense.
    (c) Home discipline.
      If the child proves obstinate the forces of the home should be enlisted to secure reëstablishment of the school unity.

Princeton, Ill. M. G. Clark, Superintendent.

The amount paid out in the United States per capita for higher education inclusive of the secondary or preparatory schools which are in direct affiliation with the universities and colleges, is thirty-five cents. In Switzerland it is 21.8 cents; Great Britain, 21.7; Germany, 14.3; Belgium, 11.4; Austria, 11.3; Norway, 8.3; Hungary, 7.1; Italy, 7; Greece, 4.3; Russia, 3.7, and Spain, 2.8.

TEACHERS' EXAMINATIONS.

The questions given in this department have been selected from papers used at recent teachers' examinations in several states. The answers are necessarily suggestive rather than final, tho their accuracy can be depended upon as far as they go.

New York State Uniform Examination Questions.

Friday, August 14, 1903, a. m.

ORTHOGRAPHY.

1 accountant
2 catarrh
3 fiscal
4 plaintiff
5 initial
6 lineage
7 cessation
8 inflammation
9 cavalry
10 hemorrhage
11 collision
2 punishable
13 reminiscence
14 excel
15 innocent
16 coerce
17 transcend
18 Genesee
19 worsted
20 critical
21 raisins
22 occupancy
23 peaceable
24 artillery
25 extravagance
26 predicament
27 boulevard
28 diamond
29 challenge
30 palatial
31 sheriff
32 Manhattan
33 frenzy
34 exuberant
35 competitive
36 permitted
37 embarrass
38 elapsed
39 confidential
40 Illinois
41 seized
42 Britain
43 affidavit
44 proposal
45 Minneapolis
46 premature
47 musician
48 desirable
49 license
50 transgressor

PHYSIOLOGY AND HYGIENE.

1 Name and give the location of the longest three bones of *a*) the leg; *b*) the arm.
2 *a*) Name three bones of the cranium. *b*) Describe the sutures of the skull.
3 Name and give the location of the salivary glands.
4 In what way does the use of alcohol affect muscular energy?
5 *a*) What is the pulmonary artery; *b*) its function?
6 Name three constituents of the plasma.
7 Name two common gases found in the blood.
8 What are the three principal excretory organs of the body?
9 Name and give the location of the strongest tendon of the body.
10 State four hygienic rules to be observed in taking exercise.

ANSWERS.

1 *a*) Femur, extends from hip-joint to the knee; tibia and fibula, extend from knee to ankle; *b*) Humerus, extends from collar-bone to elbow; radius and ulna, from elbow to wrist.
2 *a*) Temporal, frontal, and parietal bones; *b*) Sutures are the joining fissures of the skull cap; the more important are the sagittal, coronal, and lambdoidal.
3 Parotid, back of angle of jaw under the ear; submaxillary, under angle of jaw, its duct opening near front of mouth; sublingual, in front of submaxillary and empties under the tongue.
4 Lessens endurance of muscular energy; alcohol increases muscular fatigue.
5 *a*) The pulmonary artery runs from the ventricle to the lungs; *b*) sends blood to lungs.
6 Water, waste elements from tissue, and nourishing materials for the tissues.
7 Oxygen and carbonic acid gas.
8 The skin, lungs and kidneys.
9 Tendon achilles in the back of the leg.

10 Avoid fatigue; be in open air as much as possible; exercise should be taken regularly; select an enjoyable form of exercise.

AMERICAN HISTORY.

1 *a*) What colony was settled by the Swedes? *b*) Tell how Sweden came to lose possession of this colony.

2 *a*) Name a colony that was not molested by Indian wars and give a reason for its freedom from such wars. *b*) Mention two Indian wars that occurred in the New England colonies.

3 *a*) Name the different forms of government in the colonies. *b*) Describe one of the forms named.

4 *a*) How did General Wolfe effect the capture of Quebec? *b*) What were the results of Wolfe's victory?

5 What was attempted in 1777 by *a*) Gen. Burgoyne; *b*) Col. St. Leger? What general is deserving of most credit for the defeat of *c*) Burgoyne's plans; *d*) Col. St. Leger's plans?

6 *a*) Name three leaders of the Federalist party. *b*) What was the principal issue between the Federalist and the Anti-Federalist parties?

7 Define the boundaries of the Oregon country, the ownership of which was in dispute between the United States and England in 1844.

8 For what is each of the following men noted: *a*) William Lloyd Garrison; *b*) Gen. Sam Houston; *c*) Charles Goodyear; *d*) George Bancroft; *e*) Stephen A. Douglass?

9 Describe the military operations of Gen. Grant in the West after the surrender of Vicksburg.

10 *a*) What event gave rise to great agitation of civil service reform? *b*) What does civil service reform seek to accomplish?

ANSWERS.

1 *a*) Delaware. *b*) Conquered by Dutch from the New Netherlands.

2 Pennsylvania, as a result of Penn's kind treatment of Indians; *b*) King Philip's war, Pequot war.

3 *a*) Royal provinces, proprietory government and free governments under charters; *b*) Royal province: being appointed governor, people elected members of the Assembly.

4 *a*) By scaling the heights of Abraham. *b*) Decided the French and Indian war.

5 *a*) An invasion of New York by way of Lake Champlain with the purpose of separating New England from New York. *b*) Capture of Fort Schuyler. *c*) General Schuyler. *d*) General Herkimer.

6 *a*) Alexander Hamilton, John Adams, George Washington. *b*) The adoption of the Constitution.

7 It included the present States of Washington, Oregon, Idaho and part of Montana and Wyoming. Principal boundary parallel of 49 degrees North.

8 *a*) Noted abolitionist. *b*) Conquest of Texas. *c*) Inventor of rubber shoe. *d*) Historian of United States. *e*) United States Senator and opponent of Lincoln.

9 He went to Chattanooga and raised siege there. Battles of Lookout Mountain and Missionary Ridge. Capture of East Tennessee.

10 *a*) The abuse of Jackson's administration. *b*) To do away with the spoils system.

GENERAL HISTORY.

Answer any six.

1 Name the chief branches of the Aryan stock of languages.

2 Name the chief kingdoms into which the Greek empire fell at Alexander's death.

3 Outline Rome's conquest of the Mediterranean lands, mentioning in

order the chief wars of conquest, and giving the date of the coast country that was the last to be conquered.

4 What events are commonly taken as marking the ends of the periods designated as *ancient* and *mediæval?* Give also the dates.

5 *a*) When and how did the Western Empire fall? *b*) When and how did the Eastern Empire terminate? *c*) When and how was the Western Empire revived? *d*) When and how did this revived "Holy Roman Empire," formally and officially become extinct?

6 Give the date of the Norman Conquest of England, and a brief statement of its most important consequences.

7 Give some account of Venice, with special reference to the time when the Venetian state was at its zenith.

8 *a*) Give a brief account of the liberation and unification of Italy. *b*) What is the name of the present king?

ANSWERS.

1 Sanskrit, Iranian, Greek, Latin, Celtic, Germanic and Slavonian or Slavo-Lettic.

2 Macedonia, including Greece, Egypt and Syria.

3 Punic wars, Spanish wars, Macedonian and Greek wars, Mithradatic wars, Jugurthine wars, Wars under the triumvirates. Egypt, 30 B. C.

4 The irruption of the Teutonic nations, about 375 A. D., marks the end of the ancient period, but until 476 A. D. it was a transition period. The fall of Constantinople in 1453 marks the end of the mediæval period.

5 *a*) In 476, when Odoacer became the first barbarian king. *b*) In 1453, when the Turks captured Constantinople. *c*) In 800, when Charlemagne was crowned emperor of the Romans. *d*) In 1807, by conquest of Austria by Napoleon.

6 The year 1066, A. D. It brought England into contact with Europe; changed the characters of the English people; brought in learning; changed the form of government and language.

7 Personal answer required.

8 *a*) Sardinia declared war on Austria in 1848. Garibaldi revolted. Both were put down. Sardinia sent troops to Crimean war. War between Sardinia and Austria, 1859-1860. Sardinia received Tuscany, Modena, Parma, and Romagna. Sicily and Naples, with Umbria and Marches added in 1860. Venetia added in 1866. Rome made the capital in 1870. *b*) Victor Emmanuel III.

GEOGRAPHY.

Answer any six.

1 Define (*a*) degree of latitude, (*b*) degree of longitude.

2 Name the principal countries in which the Mohammedan religion prevails in whole or in great part, and state to what races the respective peoples chiefly belong.

3 Describe the direct or shortest course from San Francisco to Manila, naming two groups of islands and one great seaport that are nearly on that course.

4 Name ten bays or gulfs that indent the coasts of North America.

5 Locate the Erie canal, the Chicago Drainage canal, the Kaiser Wilhelm canal, and the Corinth canal, and state the chief commercial advantages secured by each.

6 Locate five important cities of Asia, and tell why important.

7 The wide use of the bicycle led (*a*) to a certain improvement in country districts, and (*b*) to an increased importation of a certain tropical product.

ANSWERS.

1 *a*) A degree of latitude is the distance separating two parallels of lati-

tude drawn parallel to the equator. *b*) A degree of longitude is the distance between two meridians. The meridians run from North to South thru both poles.

2 Egypt, Arabia, Turkey, Persia, India, Malay archipelago, Tripoli, Algeria, Morocco. The inhabitants of the Malay archipelago belong to the Brown race; the rest belong to White race.

3 By sea, directly across the Pacific ocean. Hawaiian and Caroline islands. Honolulu.

4 Hudson bay, Gulf of St. Lawrence, Massachusetts bay, Bay of Fundy, Gulf of Mexico, Gulf of California, San Francisco bay, Bristol bay, Gulf of Bothnia, Gulf of Campeche.

5 From Lake Erie to Hudson river. From Chicago to the Mississippi. From Kiel to the Elbe. Across Isthmus of Corinth in Greece.

6 Pekin in northeastern part of China, near Tientsin and Gulf of Pechili; Capital of China, Shanghai, a large seaport, eastern coast of China. Hongkong, southeastern coast of China, English seaport in the East. Saigon, southern part of French Indo-China is the capital. Bangkok, capital of Siam, on Gulf of Siam.

7 *a*) Good roads. *b*) Rubber.

ENGLISH AND AMERICAN LITERATURE.

Answer any six.

1 Name two great prose writers and two great poets of the Elizabethan Age, and give a brief account of the works of each.

2 Give a brief account of Addison's writings and of their effect upon English literature.

3 What are the chief characteristics of Pope's literary work? Explain its importance. Give a quotation from Pope.

4 Name Carlyle's chief works. Briefly describe their character and influence.

5 What has been the favorite dramatic verse-form in English?

6 Name two poems by each of the following: Shelley, Byron, Burns, Robert Browning, Poe, Lowell, Lanier.

7 State the author and the nature or form of each of the following works: Rasselas, Vanity Fair, Tale of a Tub, Tristam Shandy, Utopia, Alexander's Feast, Tales of a Wayside Inn, The Fall of the House of Usher, Uncle Remus, The Choir Invisible, Comus, Astoria.

ANSWERS.

1 Spenser: "Faërie Queen," and a number of sonnets. Shakespere: "As You Like It," "Much Ado About Nothing," "Merchant of Venice," "The Winter's Tale," "Twelfth Night," "The Tempest," are his plays of first rank. Raleigh: "The History of the World," and several poems. Bacon: "Essays," "The New Atlantis," "Life of Henry VIII."

2 "Spectator," and "Tatler," essays; religious hymns, plays "Rosamond" and "Cato," "Travels in Italy," and "Evidences of Christianity." Addison has served as a model of style. He abandoned the artificial manner of writing.

3 Master of heroic verse and of the artificial school. His work is important as an interpretation of his age. "I lisped in numbers, for the numbers came."

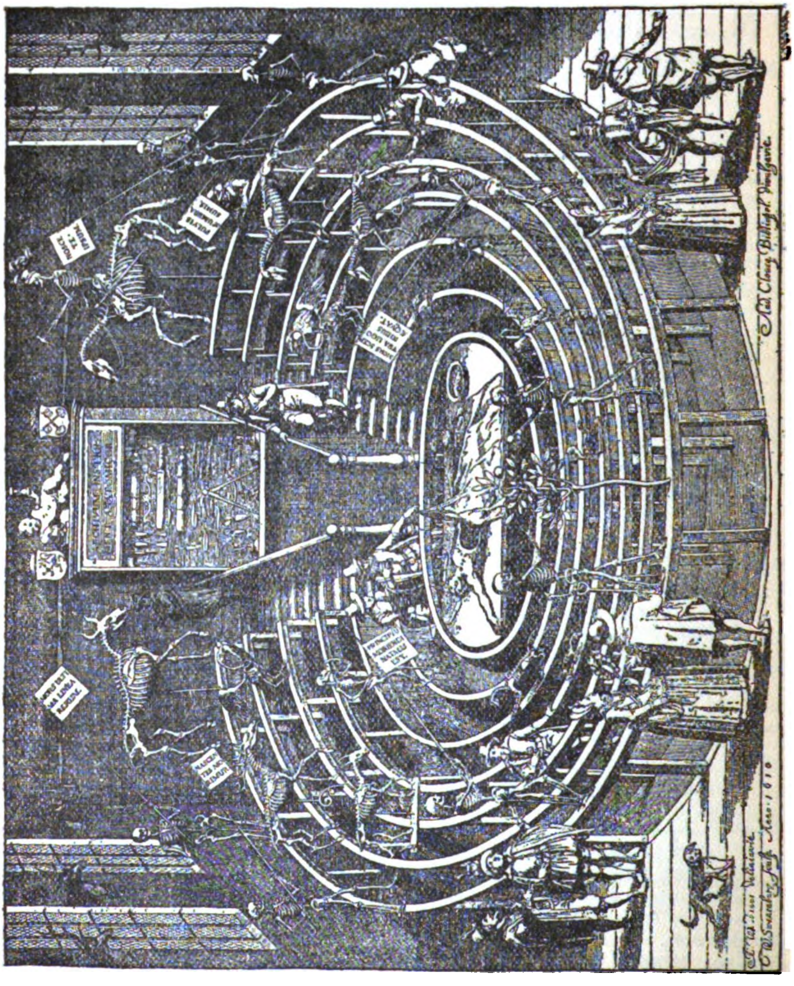
4 "Sartor Resartus," "Life of Schiller," "History of French Revolution," "History of Frederick the Great," and "Heroes and Hero Worship." His work was historical and critical. His influence thru his philosophical essays has been extensive and the obvious strength of his writings has had great influence.

5 Blank verse.

6 Shelley: "Queen Mab" and "The Revolt of Islam." Byron: "Childe Harold" and "Don Juan." Burns: "Tam o' Shanter" and "The Twa

Dogs." Browning: "Sordello" and "The Ring and the Book." Poe: "The Raven" and "Annabel Lee." Lowell: "Biglow Papers" and "Under the Willows." Lanier: "Centennial Ode to Columbia" and "The Marshes of Glynn."

7 Samuel Johnson, poem; Thackeray, a novel; Benjamin Swift, a satirical romance; Laurence Sterne, a biographical romance; Sir Thomas More, a romance in a satirical garb; Dryden, ode on St. Cecilia's Day; Longfellow, a poem; Edgar Allan Poe, a prose tale; Joel Chandler Harris, American short story; James Lane Allen, a novel; Milton, a poem; Astoria, Irving, a novel.



Hall of Anatomy at Leyden in 1600.—Reproduction of a drawing by J. C. Wondanus. Published in 1610.

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Contents for February, 1904

Essential Constituents of all Education. Charles W. Eliot - - - - - - - 397

Social Functions of the Superintendent. Charles B. Gilbert - - - - - - - 398

The Training of Teachers for Elementary Schools. W. S. Sutton - - - - 405

METHODOLOGY OF EDUCATION

The Socratic Method of Teaching. John Adams - - - - - - - 408

Ethical Training. Walter L. Hervey - 414

The Newer Meaning of the Course of Study. Supt. W. H. Elson - - - 417

Education Thru Nature Study. John P. Munson - - - - - - - - - 418

Teaching Reading. J. B. Calkin - - 420

Rewards and Punishments in School. R. F. Charles. Discussion, Mr. Bolland, Mr. Butler - - - - - - - 425

EDUCATIONAL CLASSICS

Selections from the Writings of Horace Mann. Col. F. W. Parker - - - 431

EDUCATIONAL ORGANIZATION

The National Bureau of Education in the United States. R. L. Morant - - 440

Present Educational Tendencies. Supt. J. H. Phillips - - - - - - - - 449

CLASSIC ANTIQUITY

Old Greek Life. J. P. Mahaffy - - - - 450

Roman Art. Francis C. Turner - - - - 461

TEACHERS' EXAMINATIONS

EDITORIAL NOTES

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Educational Foundations

OSSIAN H. LANG, Editor.

Vol. XV., FEBRUARY, 1904. No. 6

Essential Constituents of All Education.*

THE first constituent is the careful training of the organs of sense, thru which we get incessant and infinitely diversified communications with the external world, including in that phrase the whole inanimate and animate creation with all human monuments and records. Thru the gate of accurate observation come all kinds of knowledge and experience. The organs of sense are not for scientific uses chiefly; all ordinary knowledge for practical purposes comes thru them, and language, too, with all which language implies and renders possible.

Then comes practice in grouping and comparing different sensations or contacts, and in drawing inferences from such comparisons—practice which is indispensable in every field of knowledge.

Next comes training in making a record of the observation, the comparison, or the grouping. This period may obviously be made either in the memory or in written form, but practice in making accurate records there must be in all effective education.

Fourthly comes training of the memory, or, in other words, practice in holding in the mind the records of observations, groupings, and comparisons.

Fifthly comes training in the power of expression—in clear, concise exposition, and in argument, or the logical setting forth of a process of reasoning. This training in the logical development of a reasoning process is almost the consummation of education.

But there is one other essential constituent, namely, the steady inculcation of those supreme ideals thru which the human race is uplifted and ennobled—the ideals of beauty, honor, duty and love.

These six I believe to be essential constituents of education in the highest sense; we must learn to see straight and clear; to compare and infer; to make an accurate record; to remember; to express our thought with precision; and to hold fast on lofty ideals.

Harvard University. CHARLES W. ELIOT.

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*Selections from an address.

SCHOOL ADMINISTRATION.

Social Functions of the Superintendent.

BFORE passing from the school superintendent, it seems worth while to devote at least part of an article to his social functions. I do not mean attendance upon afternoon teas, progressive euchre parties, or evening receptions, altho these may be a proper and even an important part of his work. But I have in mind the superintendent as a factor in the community life—a prominent figure in all public movements and public gatherings which are influential in furthering the aims for which society is organized.

Theoretically, no man is in a better position to serve the public in this capacity than the school superintendent. He is the schoolmaster of his town epitomized. He represents in his own person, or should represent, the educational force and the educational ideals of the community. The old trinity of intellectual influence in the community—the minister, the squire, and the doctor—was long ago enlarged by the addition of the schoolmaster, and he has been for years a growing figure, somewhat eclipsing the others.

The squire is but a ghost, and the lawyer, who has taken his place, is not because of his profession an influential figure—rather the reverse. The doctor has in most cases ceased to try to be a public character. The minister still frequently tries to be, often with disastrous effect to himself and his sacred cause.

Their places have been taken by the professional reformer, the man who is at the head of the Chamber of Commerce, the Board of Trade, or other semi-public body, and in a way, the politician, especially as represented by the mayor. But no one of these can fill the place as well as can the schoolmaster. He is really, as represented by the superintendent sole heir to the old intellectual forces which were such *per se*. If he uses his opportunity, if he makes even a feeble attempt to use it, he is sure to be awarded a chance to exert a wiser and more wholesome influence than any othr single man in the community. His counsel will be sought, and when sought will be valued, unless, by some foolish course, he lowers his own standard. The general tendency of the better element in every community is to look up to the superintendent of schools and to put him forward to the full measure of his ability, and often beyond it.

Now, in view of this change in attitude, and of this vast opportunity which that change has given the school superintendent, what ought he to be as a public man aside from his work of superintending education?

He should educate the public in education. This does not mean simply that he should be a lecturer upon paideutics, tho that is doubtless one of his proper and necessary offices, but it means that he should take within his sympathies and comprehension all organizations and plans that make for the intellectual and moral betterment of the community. That is, he should take a large view of education.

Technically, the superintendent's duties are limited to the management of the public schools, but we have not yet arrived at a very clear notion of the limits of this management, or of what should be included within the purview and control of the public school authorities, but if we accept the common, limited view of their office, we must not accept this as defining the superintendent's field of activities. He should be the active coördinating force to bring into harmony and to unify, in so far as unity is desirable, all those agencies which are operated under the auspices of philanthropic and ecclesiastical bodies for the common education.

There is enormous waste in all communities, and, in general, a lack of coördination among well-meaning people who are working for the same ends, but not together.

What, then, should the school superintendent do beyond the actual supervision of schools?

First, what should he not do? He should not engage in any political strife, and that means more than partisan politics. He should not take sides upon questions that do not directly concern his educational work, even tho he may be greatly interested in the outcome. There are many interests in which it is possible for the superintendent to mingle without stirring up strife, and all others he should eschew. It is true, a superintendent is a citizen and should exercise his right as a citizen; should vote and do what else he can for the political cause in which he believes, without taking an active or an offensive part. Let it be borne in mind that if he is to be a harmonizer and organizer of educational forces in the community, he must win the confidence of all parties and be on good terms with all. Most social, and very many political, controversies are wholly unnecessary, and are due to the inability of people to understand one another's views and to the unconscious belief that they have in their own inerrancy.

These controversies unfortunately often occur in attempts to bring about moral and political reforms, especially those urged on by professional reformers, and by the clergy. These the school superintendent should keep out of. He should also keep out of religious controversies. Of course it is his privilege, as it is that of every man, to go to the church of his own faith and to work in it, but not to take part in controversies with people of other faiths or of no faith. He should never be partisan excepting on behalf of the best things in his own immediate, technical field, but he should be active, in so far as possible, in philanthropic, literary and scientific organizations, and also in important social bodies, such as clubs of the best sort.

A prominent school man said to me recently, regarding another who had lately gone as superintendent to one of our large cities, that he feared for him chiefly because of his inability to mix with men; he was not, in the language of the politician, a good "mixer." He said: "I suppose he has never belonged to a social club and would hardly know what to do in one." My friend did not overstate it. Such a superintendent is always in danger because of his lack of ability to assimilate and his failure to recognize the importance of other things than his own schoolmasterly duties. It is said of him that he is a mere schoolmaster, and it is said in reproach by people who would like to have him something more.

No man can afford to be limited to his shop. The man who is a mere lawyer, a mere merchant, a mere manufacturer, that is, whose whole horizon is bounded by his business, is a small man, of necessity, and of little weight in the community. Particularly is this true of the schoolmaster, whose very position makes it important for him to be of considerable weight. Hence my advice to all superintendents to belong to social bodies, membership in which is not inconsistent with professional dignity or with good standing in the community; to be active in organizations for educating the public in art, in literature, in music; for securing and maintaining courses of lectures, libraries, concerts and operas of the better sort; to be especially active in broad philanthropic organizations, whether upon a religious or a secular basis, provided they are not controversial; to seek to bring the various organizations into harmony with one another, and to magnify their usefulness in every way possible, and particularly by bringing them into harmony with his own important work of public education. The superintendent who does this accomplishes much by it. First, he makes life more worth living for himself; he becomes a larger man because of his broadened interests. Second, it makes him a better superintendent; he better understands public need and what he really ought to do for the schools.

Too many school superintendents are limited to the purely professional view of their work, and often they go far astray in gauging public need. I have sometimes talked with school people who seemed unwilling to admit that the parent has any special rights in regard to the education of his children by the public, or that he knows anything about it. The superintendent who comes in contact with many classes of people is not so likely to make this mistake. He not only magnifies himself as a man, he makes himself vastly more useful. He brings to the help of various good organizations his own technical skill and his wisdom as an administrator of education, and most philanthropic and social institutions need just such help, and they welcome it. The average eleemosynary institution is badly managed because there is no one connected with it who knows how. This is true also of a great many literary, scientific and social organizations of the better sort. The superintendent's help is most valuable, it is always welcome, and the rendering of it makes him a more useful man. But above and beyond all this, the superintendent of schools who recognizes the whole field of education as his and attempts to till it as I have indicated, strengthens his own specific work enormously. He brings to his support the best forces in the community, and in time of stress, when his educational theories are being attacked, he finds it of the very greatest value to have such support.

In no department of society have we got beyond the recognition of the personal equation—the man counts for more than his doctrine always. The school superintendent who is, as he should be, in advance of his community, and who is, as he should be, continually bringing new things into the schools, endeavoring to improve them in the light of modern thought and discovery, is sure to be set upon by those parents and citizens who are satisfied with the old, and who measure the kind of training their children are receiving by the kind they themselves received when children. It is astonishing how many people are so well satisfied with themselves and their own training that they gauge all progress in matters of education and religion by themselves. This is perhaps the greatest obstacle the school superintendent meets in his attempts at progress.

Now, if he is a mere schoolmaster, limiting his field of activities to his office and the school room, comparatively unknown in the community, even if he has formulated many admirable reports, proving incontrovertably that his innovations are wise, the public will not accept them, but if they know him, know his spirit and know him to be a wise and sensible man, when he says that this is good, they believe him. A few minutes personal talk with a few of the best people—the most influential citizens, by the superintendent who has their confidence, will do more to pave the way for possible reforms than all of the articles that he may write and publish. Because, after all, the public will stand by a person rather than a theory, and the superintendent owes it to himself, owes it to his schools, and owes it to his school board to put himself in such a position in the community that the citizens will be ready to stand by him, even when they do not fully understand what he is driving at.

There are other means than those mentioned by which the superintendent of schools may make himself an important factor in the community and may strengthen his own hands as school superintendent. One is the proper use of the press. The editors of the leading newspapers in all of our towns are usually men of more than ordinary intelligence and anxious for the public welfare. If they can be made to see that the school superintendent is the right man for his place, and that what he is doing is best for his schools, they will usually be willing to support him. Of course, I refer only to the fair, well-meaning newspapers.

The superintendent of schools should make it a point to know personally, not merely the reporters, but the editors of papers, and first of all, the editor-in-chief, because no department of business, so far as I know, has its whole policy so entirely controlled by one man as the newspaper. He should also know the city editor and be on pleasant terms with him, and if he has a new scheme that is likely to be misunderstood, he should be at pains to explain it personally to these men before it goes to the public. In all my experience as a school superintendent I have never yet known an editor who was not willing, and even eager, to listen to all I had to say to him upon educational subjects, and if he were convinced of its propriety, perfectly willing to support my scheme to the extent of his ability. And I have never but in one instance known a newspaper to take advantage of or misuse confidence. I have always found it safe to let the editor-in-chief know what I had in mind, even before I published it, so that he might be armed when the time came, and, as I have said, never in but one instance have I known this trust to be taken advantage of and premature publication to ensue.

Newspaper editorial support is a very desirable thing. In general, if the superintendent cannot convince the editors of important papers that he is, in the main, right, a fair conclusion is that he is at least partially wrong. Further, in discussing with men who have as many possible points of view as a newspaper editor, the school superintendent himself is likely to get much light, if he keeps the windows open.

Another possible, and wholly proper, means of influencing the public is thru public addresses. I know that some school men are not happy in making addresses, but most men who believe in anything earnestly, and are sufficiently intelligent to be school superintendents, can express their views in an effective, if not attractive way. I recall now one school superintendent of mature years, who, like Demosthenes, overcame the greatest difficulties in order that he might be a good public speaker, and thus fulfil one of his proper functions in the community, and he succeeded remarkably well.

There are many occasions upon which the school superintendent, if he will and if he has the talent, can address the public upon educational topics. He is sure to be invited before bodies of various sorts to make addresses, and usually is expected to give an educational trend to his talk. Particularly if there are parents' organizations in connection with his schools has he a fine opportunity for educating the people. But his chances are not limited to such organizations. Church functions, banquets of all kinds, and gatherings of the various organizations of which I have spoken, give him his audience, and he is an unwise superintendent who does not attempt to improve such opportunities. It is a mistake to claim pressure of professional duties. These are professional duties if he takes the proper view of his profession.

Education is the whole of life but he can aid its development. Naturally, the superintendent cannot control the whole of life. There are very many organized educative forces in the community besides schools, and the proper view is that they should all work together with the schools. Much of the very best work is done under philanthropic impulse, and the tendency to turn such beneficent institutions over to the control of the State is to be regretted.

The superintendent of schools who insists that other educational institutions, to receive aid from him, must come under his control and that of the school system, is likely to destroy sympathy, weaken the philanthropic impulse in the community, and while he may make an apparently more perfect machine, he really fails to accomplish the ends of such organizations as well as if he were to encourage independence.

The superintendent, then, should regard all education as a part of his field, and should be ready not so much to uphold all educational institutions, as to extend himself over them with a helpful spirit. He should be the most prominent as well as the most useful man in the community in all matters which are within the broadest possible scope of the term education.

New York. C. B. GILBERT.

An Eighteenth Century Manual Training School for Girls.

The Training of Teachers for Elementary Schools

THE first European school of any consequence, established for furnishing pedagogical instruction to teachers of elementary schools, was the Seminary for Schoolmasters, founded in Rheims by Abbe de La Salle in 1685, his school for teachers being a component part of his Institute of the Brothers of the Christian Schools. France did not, however, regard the normal school idea with any considerable degree of favor until the great Revolution of the eighteenth century had made it possible to establish her system of education upon a democratic basis.

In Germany, the Pietist leader, Francke, has the honor of inaugurating the normal school movement. In 1697 he organized a teachers' class of poor students in his orphan school in Halle, giving them free board and free instruction in return for certain hours spent daily by them in teaching. From these students in 1704 he selected twelve, who had distinguished themselves for knowledge, for piety and for skill in teaching, and established his Seminarium Praeceptorum, or Seminary for Teachers. These students he retained for two years (keeping them engaged in further professional study and training). One of his pupils, the Rev. Julius Hecker, in 1748, founded in Berlin a private school to train teachers. Four years later Frederick the Great issued a decree that all vacancies in teachers' positions in schools maintained upon certain lands belonging to the crown be filled by pupils trained in the Berlin seminary, and in 1754 this seminary was converted into a State institution, and by the year 1800 at least six such seminaries were in operation in Prussia alone.

Similar schools were, during the nineteenth century, introduced into England and Scotland, where they are known as teachers' training schools or teachers' training colleges. Other similar schools have been organized in the great majority of the remaining countries of Europe; but it is in the German States that the movement has received the greatest attention and made the greatest progress.

It is from Germany, furthermore, that America received the normal school. Dr. H. Julius, a representative of the Prussian government, after spending some time in the study of penal institutions in America, sailed for his home in the fall of 1834. One of his fellow passengers on this voyage was a clergyman of Hingham, Massachusetts, the Rev. Chas. Brooks, who became profoundly interested in the educational system which obtained in Prussia. During his stay abroad Mr. Brooks made a thoro study of that system. Returning to America he entered upon a somewhat extensive ministry in behalf of public education in New England, Pennsylvania, and New Jersey. In his addresses, delivered in Massachusetts in 1835 to 1837, he carefully explained the details of education in Prussia, dwelling with especial emphasis upon the value of her teachers' seminaries, and urging that his own state establish a normal school without delay.

In 1837 Horace Mann became secretary of the Massachusetts State Board of Education, for the creation of which board he had rendered conspicuous service in the legislature. He was not long in reaching the conclusion that the normal school is an indispensable factor in promoting the welfare of the common schools. Profiting by the labors of Chas. Brooks and others, and receiving financial aid from his bosom friend, Edmund Dwight, a member of the board, he induced the legislature to establish three normal schools in Massachusetts. The first one, to which only young women were admitted, was opened July 3, 1839, but three students appearing for examination and matriculation. The first session closed with an attendance of only twelve pupils. The other normals began their work later in the year under somewhat more favorable auspices.

These few facts, taken from the report of the United States Commissioner of Education for 1899-1900, are submitted as evidence that the American people have been soundly converted to the doctrine that schools for teachers are a necessary factor in the rational expansion and development of our system of common schools.

In this country in 1899-1900 there were in active operation one hundred and seventy-two normals under state control, all the states and organized territories except Nevada and Wyoming conducting from one to sixteen normals each. In these schools were enrolled 71,491 students, who were instructed by 2,915 teachers. The total income of these schools for the year was $3,749,750, while the value of their buildings and other property was $23,061,077. Surely these figures are the most convincing argument of the progress of the normal school idea.

The legitimate sphere of the normal school is to prepare young men and women for teaching in the common schools. It perverts its mission where it transforms itself, unwisely and illegally, into a merely academic school. It is true that there is given in the normal school instruction in many of the subjects taught in the common school; but the aim in the teaching of these subjects will, by no means, be the same as that to be regarded by the teacher in a purely academic school. To illustrate, the youth in an academic school learns English, history, mathematics, etc., largely for their own sake, for the practical value and the mental discipline they afford; he studies them chiefly as ends in themselves. The student in the normal school, on the other hand, should be continuously confronted with the question, How can I most effectively teach the subject I am learning? To him the ordinary branches of learning, it is true, are attractive because of their inherent interest; but they are yet more attractive because, no longer considering them as ends in themselves, he regards them as valuable means whereby the one great purpose of the teacher's work may be realized. If the distinctive aim of the normal school be kept steadily before the pupil, he will be led to the critical investigation of the difficulties involved in mastering the subjects he studies. Surely herein is found a sure and a satisfactory means for the promotion of thoroness of scholarship, for of all educational aphorisms none is worthier of acceptation than the old Latin maxim, *Docendo discimus* (we learn by teaching). Teaching and learning are correlative terms, the principles and practices of the former being derived from those of the latter. It is the distinctive business of the normal school to require continuous and intelligent work on the part of its students in the deriving of these principles and practices, a work as difficult and as important as learning itself.

W. S. Sutton.

University of Texas.

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METHODOLOGY OF EDUCATION.

The Socratic Method of Teaching.

SOME poor teachers confine themselves to lecturing their pupils. Here the children may remain quite passive; the teacher does all the work and is quite content if at the end of the lesson he has told his pupils a great many new things. Other poor teachers fall into the opposite error of making the pupils do all the work. A lesson is prescribed which the children are expected to prepare, while the teacher confines himself to the work of seeing that the lesson has been prepared. Of the two methods, the second is better than the first, but neither should be tolerated. Do not fall into error here. Remember that lecturing is excellent in its place; so is careful examination to see that pupils have prepared any lesson that has been prescribed. But neither lecturing nor examination can take the place of teaching which includes both and much more besides. There are many methods of teaching, but all that are worthy of our serious attention have at least this one quality in common—they insist upon a division of labor between teacher and pupil. The interchange of thought may be called a process of dialectic, and we have seen that any method that lays stress on this process may be called a dialectic method.

There is one form of dialectic method associated with the name of an old Greek philosopher who was born about 470 B. C. Socrates came into the world with a thirst for truth, and a passion for teaching. His whole life was spent in seeking truth, and in trying to make others share in his search. He went about Athens doing little else than teaching everybody who would listen to him. But his way of going about his work was peculiar. He did not lecture, or explain things as one who knew a great deal more than other people. On the contrary, he professed that he was a very ignorant person whose sole object was to learn things from everyone he happened to meet. This is called the Socratic irony, for Socrates really knew in most cases the true answers to the questions he asked, while the people to whom he put the questions were usually ignorant, without knowing how ignorant they were. The only knowledge Socrates claimed was the knowledge of his own ignorance, and the first step in the method is to convince the pupil of his own ignorance, and thus make him willing to learn.

It was one of Socrates' peculiarities to maintain that he never taught anybody anything. All that he did was to make them teach themselves. Socrates did his teaching wherever he happened to meet anyone who cared to talk with him, often in the open air. The market place at Athens was a favorite resort of his, as there he met people of all classes. He had no pupils in the ordinary sense of that word, but dealt with all who came his way. His usual plan was to lead up to some word and ask its meaning. The person spoken to usually answered readily enough, thinking he knew all about it. Then Socrates would point out some defect in the answer—did it mean so-and-so? or did it mean something else? The man would then mend his answer, only to find that Socrates had new objections. This would go on for a time, till at last the man would get tired, and feel convinced that he did not know so much as he had thought. This was Socrates' opportunity, and from this point he would by skilful questions lead his humbled acquaintance to find out for himself the true meaning of the word.

The pupil treated on the Socratic method passes thru three stages.

1. Certainty—but without any foundation for this certainty.
2. Doubt—accompanied by the desire to know, and a striving after knowledge.
3. Certainty—based upon careful thinking.

The nature of the Socratic method may be better understood by the following modernized example. Suppose Socrates could rise out of his twenty-three hundred year old grave(and could speak English) he might come along to the playground, and finding John Thomson, the teacher, standing there doing nothing in particular, might enter into conversation with him. By and by he might ask quite casually:

"By the way, Thomson, what *is* an insect? I often hear people talking about insects, and I'd like to be quite sure what they mean."

Then Thomson would feel very big at being asked in that way by such an old man, and would answer in an off-hand style:

"Oh, an insect? Why, I thought *everybody* knew that. An insect's—let me see—yes, an insect's a little animal with wings."

Then Socrates might look beyond the school railings at a hen pecking among the stones in the road, and say:

"Well, well, now. So that's an insect. D'ye know, I wouldn't have thought that now."

And Thomson would be angry, and think that Socrates was not just such a nice old man as he had supposed, and would go on to explain that a hen was far too big for an insect.

Socrates, on the other hand, would be quite nice about it, and say:

"So an insect is a *very small* animal with wings?"

Th. (relieved) Yes.

Soc. Is a humming bird small enough?

Th. (shortly) No; an insect isn't a bird at all.

Soc. Then an insect is a *very small* animal with wings *that isn't a bird?*

Th. (again relieved). Yes.

Soc. In a shop yesterday, I saw a little package marked "Keating's Powder" which was said to kill all insects. There were some pictures of very small animals that weren't birds, but they hadn't wings, so I suppose it was a mistake putting them there, for they couldn't be insects without wings, could they?

(Thomson is now sure that Socrates is a very disagreeable old man, and wonders that he had not noticed before what an ugly pug nose the old man has.)

Th. (bitterly). Yes, they're insects right enough. Everybody knows *them.* You don't mean to say you don't know them?

(But Socrates never answers side questions like this last. He always keep to the main point.)

Soc. Dear me! Dear me! What are we to say now? An insect is a *very small* animal with wings, that *isn't a bird*, and *sometimes hasn't wings.* Really, I don't think I quite know yet what an insect is.

Th. (with a happy inspiration, and the memory of a reading lesson). Oh, an insect is an animal that begins as a grub, goes on to be a chrysalis, and ends by being a perfect butterfly.

Soc. How interesting! Now how long would you say Keating's insects—the ones without wings, you know—would take to become perfect butterflies?

Th. Oh, bother! You do nothing but find fault. Tell me what an insect is—you.

Soc. But you forget, my dear Thomson, that I don't know. I'm only asking for information. Let's examine three or four animals that we know to be insects, and see wherein they resemble each other. Which animals shall we take.

Th. Oh, let's take the butterfly, the bee, the spider and—and, say, the beetle.

Soc. Good; but by the way, my friend the professor happened to say the other day that the spider isn't an insect, tho, like you, I thought it was, and so do most people. Let's examine it along with those we are sure about, and see how it differs from them: that will help us to find out what an insect really is.

And so the conversation goes on. They find that the spider has eight legs, while all the genuine insects have only six; that all the insects are made up of a series of rings; that these rings are grouped into three sets; that all have either wings or traces of wings, and so forth.

But it must not be supposed that the Socratic method is limited to the work of definition. All sorts of subjects may be treated in the same way. The essential element of the method is the reciprocal action between teacher and pupil. In particular the Socratic irony is not of fundamental importance. With the haughty intellectual Athenians it was necessary to break their pride in order to make them willing to learn, and with some of our conceited pupils we may perhaps use it occasionally with advantage; but in ordinary school work the irony part may well be omitted. Our pupils are usually willing enough to be interested without the irritation that often accompanies the first stage of a Socratic lesson. Thomson in the above example might have been led to desire instruction without being driven to such exasperation as fell to his lot.

In his own teaching, Socrates found that his method often had the effect of numbing his friends just as the torpedo fish numbs its victims. By the time the first stage was complete Socrates sometimes found that his friend had been so affected by this "torpedo shock" as to be unable or unwilling to answer any more questions. The same thing may be seen to-day if a teacher uses the irony vigorously at the first stage. A class will frequently cease to answer altogether when it finds that all its answers are turned against itself and made ridiculous. At the same time the first stage is necessary in order to lead to the desire to know the truth. The pupils, however, may be quite well led to see the incompleteness of their answers without being humiliated. Stimulation may be made to take the place of the torpedo shock, if the pupil is made to feel that he and the master are engaged in the same hunt for truth. The following example—a verbatim report of an actual lesson—shows how the method can be applied to an ordinary lesson, without repelling the pupils.

Teacher. Is the breath hot or cold?

Pupil (confidently). Hot, sir.

T. I have seen boys blowing upon their soup at dinner-time. I don't think they ought to do it; but what do you think they do it for?

P. To cool the soup.

T. What cools the soup?

P. (hesitatingly). The breath.

T. But didn't you say the breath was hot?

P. Yes, sir.

T. But hot things can't cool anything, can they?

P. No, sir.

T. And the breath cools the hot soup?

P. Yes, sir.

T. So the breath can't be hot, then?

P. No, sir.

T. Well, I have sometimes seen cabmen standing at a street corner, and sometimes boys in the middle of a snow-fight, blowing away into their joined hands. What do you think they do that for?

P. To warm their hands.

T. What warms their hands.?

P. (hesitatingly). Their breath.

T. But I thought you said the breath was not hot?

(Pupils puzzled—a hand held out.)

T. Well, what do you think?

P. Sometimes it's hot, and sometimes it's cold.

T. When is it hot, and when is it cold?

P. Hot in summer and cold in winter.

T. And when do you see people breathing upon their hands to warm them—in summer?

P. No, sir, in winter.

T. But you said the breath was cold in winter.

(Pupils again puzzled.)

T. What sort of soup do careless boys blow upon? Kidney soup, or pea soup, or white soup, or what?

P. (confidently). Any kind, sir, that's too hot to eat.

T. Is this soup or a boy's hand in a snow-fight the warmer?

P. The soup.

T. Is the boy's breath or his hand the warmer?

P. The breath.

T. And is the breath (the same breath, at the same time, on the same snowy day) or the soup the warmer?

P. The soup.

T. So the breath is warmer than the boy's hands, and colder than the soup?

P. Yes, sir.

T. And it is the same breath all the time?

P. Yes, sir.

T. Then it is both hot and cold?

P. Ye—yes.

T. If you were the soup what would you call the breath, hot or cold?

P. Cold.

T. And if you were the boy's hands?

P. Hot.

T. And if you were a snow-ball what would you call it?

P. Hot.

T. And if you were the stove over there?

P. Cold.

T. So breath is hot for some things and cold for others, and that's all we can say, isn't it—unless we know what we are speaking about along with breath? *P*. Yes, sir.

T. And yet the breath itself is always the same?

P. Yes, sir.

The Socratic Method brings into prominence a distinction of some importance in teaching: that between "telling" and "eliciting." With Socrates it was a fundamental principle that the teacher should never "tell" anything. Everything should be elicited. He had the theory that all our knowledge was only a remembering of things we had known in some former existence.

Young teachers frequently fall into the error of supposing that everything can be elicited, and that the true teacher should never tell anything; but nothing short of Socrates' theory of reminiscence can justify this view. The blunder arises from confounding the process of knowledge, with the material upon which the mind acts. Given certain facts as existing in the mind of the pupil, the teacher who knows how the mind works can elicit certain relations among these facts. But he cannot elicit a fact that is not there. Given a knowledge on the part of the child of the meaning of washing, we can elicit from that child that a man who goes to his room with a dirty face and comes out with a clean one, has washed himself. But no amount of Socratic skill could elicit from a child who knew nothing about washing, how a dirty face became clean. There is nothing wrong in explaining an unknown word, but one of the most important things for a teacher to learn is which things can be elicited and which things must be told.

It is easy to see that the Socratic method is not a general method like the Formal Steps. These determine the general lines of our teaching, while the Socratic plan is especially useful in clearing up difficult points that occur at the various stages.

University of London. JOHN ADAMS.

The School Course of Study.

Ethical Training.*

IT SHOULD be the aim of every teacher to make each part of the life of the school count for moral education. This aim should be present not only in formal instruction and training, but also in the general atmosphere and spirit of the classroom and of the school. In working toward this aim, the following suggestions, based on the experience of practical teachers, will be found helpful:

1. The personality of the teacher is at the root of all moral education in the school. The teacher's ideals, sincerity, poise, self-control, courtesy, voice, manner, dress, and general attitude toward life are potent forces for character building.

2. Reverence is vital to morality. Whatever quickens in children the feeling of dependence on a Higher Power, whatever leads them devoutly to wonder at the order, beauty, or mystery of the universe, whatever arouses in them the sentiment of worship or fills them with admiration of true greatness, promotes reverence. There is no subject studied in school which, reverently taught, may not yield its contribution to this feeling.

3. Self-respect, which is also fundamental to moral development, is engendered in a child when he does his best at tasks that are worth while and within his power to do well, with proper recognition by teacher and school-fellows of work well done.

4. The cornerstone of a self-respecting character is principle —the will to be true to the right because it is right, whatever the consequences, to act "with firmness in the right as God gives us to see the right." The essential difference between principle and mere self-interest should be vividly brought home to each child.

5. The spirit of the class-room and of the school—the spirit that makes children say with pride "my class" and "our school"—is one of the strongest of moral forces. Where there exists a proper *esprit de corps*, the problem of discipline is largely solved. Public opinion as a moral force should be molded and utilized in every school.

6. The child should early gain the idea of social membership. The truth that co-operation and unselfishness are essential to true social living should be made real and vital. This truth is brought home thru "group work" where the work of each is necessary to the

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*From the Syllabus prepared for the government of New York city teachers.

work of all; and thru the feeling in a school or class that the honor of all is in the keeping of each.

The child should also learn that he is a member, not only of the school, but of the family, of the neighborhood, of the city, and of the state and nation. The meaning of loyal membership of these social institutions should be made clear. The naturalness and the necessity of obedience and helpfulness should be shown. The moral aspect of home tasks; and of working with and not against the departments of health, street-cleaning, police, and education, should be enforced by concrete applications. In general, the truth should be impressed that without loyal and effective social membership no individual can wholly live.

7. No person has a fully developed moral character until there has been a transfer of the seat of authority from without to within himself; a moral man obeys himself. Each child in every grade should be steadily helped towards self-direction and self-government. Effective means to this end are: appeals to initiative and resourcefulness; the development of such a sense of honor as will preserve order without surveillance; and some form of organization designed to quicken and exercise the sense of responsibility. The "school city," when wisely applied and shorn of unnecessary machinery, has been found effective in many schools. But the form of the organization is immaterial. The essential point is that the teacher, himself a member of the community, should make his pupils sharers to a certain extent in the problems arising out of their community life; and that he should entrust to them, as members in their own right of the social body, the performance of certain functions. Such training in social activity is effective training for citizenship. Under such conditions "good order" will mean not so much the refraining from disorder as the condition of effective co-operation.

8. Each school study has a specific moral value. Literature and history embody in concrete form moral facts and principles, showing to the child his own self "writ large," furnishing him with ideals and incentives, and molding his moral judgment; and they will accomplish these results the more surely as the teacher is himself moved by that which is presented. Every subject involving observation and expression is essentially moral and should be so taught as to make for truth telling in word and act, and for training in self-expression.

9. In connection with the regular studies of the school, certain aspects of contemporary civilization which are of value for developing the social spirit should receive attention. Hospitals, soci-

eties for the prevention of cruelty to children and to animals, homes for orphans and for the aged and infirm, fresh air funds, and similar agencies for social service should be brought within the child's comprehension at the proper stage. Deeds of heroism and self-sacrifice done by firemen, policemen, soldiers, inventors, and persons in the ordinary walks of life should be presented and dwelt on. The truth that success in life means more than mere money-getting can thus be brought home again and again. The contemplation of deeds of cruelty, dishonor, and shame has a necessary, tho subordinate, place in molding moral taste.

10. The following list of topics will supply material for many practical lessons in morals and manners:

(a) Duties to parents, brothers, sisters, and playmates; to servants and other employees; to employers and all in authority; to the aged, the poor, and unfortunate.

(b) Conduct at home, at the table, at school, on the street, in public assemblies, and in public conveyances.

(c) The common virtues, such as regularity, punctuality, self-control, cheerfulness, neatness, purity, temperance, honesty, truthfulness, obedience, industry, and patriotism.

11. In all such moral instruction and guidance the following principles should be observed:

(a) The course of moral training is a development, in which the child is first led to practice and afterward to work from principle; he proceeds from obedience on faith to obedience on principle; from regularity to faithfulness. The child also develops from egoism to altruism. His impulse towards self-interest normally develops earlier than his impulse to put himself in another's place. Upon the full development of the former stage depends the full development of the latter.

(b) The culture of the imagination is a powerful aid in moral instruction; first, as the power vividly to picture consequences—to put yourself in your own place later on (foresight); secondly, as the power to "put yourself in his place" (social imagination, sympathy).

(c) In using literature and similar material for purposes of moral education, the teacher should not violate the law of self-activity. The child properly resents having a moral drawn for him which he could draw for himself, and he is the more likely to follow the principle which he himself discovers or formulates because it is his own.

(d) The most effective method in moral education is positive rather than negative. A mind filled with good interests, high ideals, and helpful activities has no room for evil. Love is a stronger and better motive than fear.

New York City. WALTER L. HERVEY.

The Newer Meaning of the Course of Study.

Much importance attaches to the course of study. It constitutes the working formula for teachers. Until within recent years it was valued chiefly for its quantitive divisions of subject-matter. More and more it is regarded as merely suggestive, indicating minimum requirements and guiding in the distribution of the emphasis. The measuring-stick idea in education has dropped into the background since the richest and best fruits of training appear in habits, disposition, character—and these are qualitative rather than quantitative results. Growth and the time-element have become correspondingly prominent.

Formerly the course of study designated the pages of the text-book to be learned; now it designates subjects and phases of subjects to be treated and the book has fallen into its proper place as a tool of instruction, helpful in furnishing data and exercises but not itself to be taught. Then the teacher measured her work in terms of text-book pages; now she expresses progress in terms of a growing power to meet new conditions, to do new things, to apply knowledge to new fields of endeavor. Then standards of promotion were based on quantitative results, on the amount of work done; now advancement is determined chiefly by the gains in power and the probable ability to meet the demands of the new work. Then the making of a course of study was a simple thing requiring neither scholarship nor insight. Now it is a delicate and difficult work requiring a high degree of professional skill, a sane perspective of values among the various subjects of instruction, an intelligent appreciation of the scope and aim of education, and a judicial attitude of mind. These are necessary to insure against one-sidedness in training from which little children are great sufferers. Indeed one of the most difficult problems for a superintendent is to secure and maintain a proper balance among the various subjects of study and a judicious poise in the method of treatment.

It must always be borne in mind that a conservative poise is vital to an all-sided training. More than all else, perhaps, does the making of a course of study demand a delicate sense of discrimination with reference to the influence on children which certain subjects of study and certain methods of instruction produce. The whole subject is one involving great responsibility and the consideration of a wide range of contributive influences.

The school teaches children to read and it is no less a part of its duty to cultivate a healthy literary taste. The habit of reading and the taste for the wholesome in literature must be established during the early period of the elementary school. The successful teacher of reading must herself be appreciative of good literature. No more important function than this belongs to the school and no influence in the life of the child is more potent or more abiding than that of the habit of reading good books.

The school has a further duty to the children in guiding their reading outside the school. Libraries in the schools offer opportunity for stimulating and directing home reading. This should be utilized to the fullest extent. Successful experiments have been made in many cities in sending sets of books to the various buildings, to be exchanged from time to time, thus forming a sort of circulating library. What these libraries contain and what the children read is of the utmost importance.

Grand Rapids, Mich. SUPT. W. H. ELSON.

Education Thru Nature Study.—Some Tentative Generalizations and Guiding Propositions.*

1. The most general aim of nature study is to promote normal development.
2. It is not a mere pastime to be resorted to in school, on those rare occasions when there is nothing else to do.
3. Nature study is first on the program of life; it should be first on the program of the school.
4. Nature study is the study of original sources; and implies knowledge of things, and the power to manipulate them.
5. With the knowledge of things and with the ability to manipulate them, come the arts and sciences, the three r's, and geography.
6. Development must begin at the bottom of the scale—not at the top.
7. Sense perception, thinking, judgment, imagination, and expression are forms of activity. These activities are being trained when properly exercised in connection with things.
8. The love of truth increases with the pursuit of it.

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*Selected from a list of 67 presented in a book recently published by E. L. Kellogg & Co.

9. The æsthetic sense is developed by the repeated discovery of the fitness of things.

10. Higher ideals are developed by the discovery of the laws underlying the fitness of things.

11. The things we appreciate are a measure of our standards of judgment.

12. Character is developed thru contact with natural forces, and by the exercise of the will in doing that which ought to be done, and doing it in the right way.

13. We all sooner or later have to become conscious of three laws: (*a*) the law of love, (*b*) the law of liberty, and (*c*) the law of necessity.

14. Liberty is an achievement; and belongs to those who have earned it, by showing their fitness for self-rule.

15. To realize the existence of the law of necessity is the most important step towards that moral freedom of personality which we call character.

16. Neatness and accuracy in our work, like personal cleanliness, often indicate a clean and well-regulated mind.

17. We fail in our work if our pupils are not interested.

18. Mystery is an element in child interest; hence, living things are more interesting than dead ones.

19. Consciousness of success in overcoming difficulties increases interest.

20. We prize results that have cost us some effort.

21. Few pleasures equal that of an original discovery.

22. The power to achieve, resulting from well-directed effort, is of greater value than a single achievement.

23. We learn to do by doing, to spell by spelling, to draw by drawing, to write by writing, provided that in each case we first know what we want to do, what we want to spell, what we want to draw, and what we want to say.

24. The child should have something to say before it is called on to say something.

25. The idea should come thru experience, before the word is given.

26. We have ideas because we have brains, and language because we have ideas to express.

27. Time spent in silent contemplation of an object is well spent.

28. First steps are important ones; they often determine the final result.

29. One generalization is worth a hundred facts; but the hundred facts must be had before the generalization can safely be attempted.

30. From fact to theory is normal to the child mind; from fact to theory and from theory back to fact is normal to the scientific mind.

31. An unanswered question is often more useful to the pupil than an answered one, provided means be devised for its solution.

32. He is a poor teacher who does not prepare his work.

33. There is a limit to the pupil's power of attention.

34. Interest in school work can be measured by its manifestation outside the school.

35. Observation and experiment is the method of science.

36. In the pursuit of knowledge it is absurd not to use all proper means at our command.

37. Every object is a part of a larger whole—its environment—and is itself composed of parts. The same method of study can, therefore, be used both for the whole and for its parts.

38. Proceed from the more extensive to the more intensive study of things. (The basis of interest in lower grades must be variety; this should gradually give place in upper grades to a desire for thoroness.)

39. The teacher who is neither thoro nor enthusiastic in his work can hardly expect his pupils to be so.

40. The teacher should gradually become unnecessary to the pupil; just as this guide should gradually become unnecessary to the teacher.

Teaching Reading.

MERE ability to read is in itself of no value. It is not knowledge, but simply a means for the acquisition of knowledge. Many persons possess the ability to read, but derive little benefit therefrom, for the simple reason that they seldom use the ability, or they read what is of little value, or they read in a loose, careless way, without attention or thought.

To make reading worthy of the high place it holds among the branches of common school education, two leading aims should be kept steadily in view:—

(1) The child should be so taught that his ability to read shall become to him an effective means for the acquisition of knowledge.

(2) The child should be so trained to read aloud that he can

convey to others in a distinct, impressive, and pleasing manner the ideas represented on the printed page.

THE ABILITY TO READ A MEANS OF KNOWLEDGE.

Whilst imparting to the child the ability to read, the teacher should seek to awaken an interest in books, and lead him to come to them as a source from which he can both gratify and develop his desire for knowledge. It should be a primary aim to cultivate the child's taste and to direct him in such a way that he will discriminate wisely in the selection of reading matter, that he will enquire into the meaning of what he reads, and that he will remember, inwardly digest, and reflect on the ideas which he has gained.

IMPORTANCE OF EARLY TRAINING.

The child's first reading lessons should be intelligible and interesting. They should not only have meaning, but they should mean something to the child. If in the early reading lessons we give the learner unmeaning syllables, as in the old-time *a-b ab, b-l-a bla,* or even significant words which represent no ideas to his mind, he will acquire a habit of listless reading—naming words without receiving or seeking ideas; or, it may be, a complete disgust for an exercise so devoid of interest. It is said that Garrick could move an audience to tears by repeating the alphabet in drawling, droning, school-boy fashion, thus reviving the painful recollection of early school days.

The first lessons should not aim to convey new knowledge, or to enlarge the child's vocabulary, but rather to show him how the object with which he is familiar may be represented by written characters, and to lead him to recognize in the written word the representation of the sound of the spoken word and also a new symbol of the idea. They should bring before the child the objects and incidents of his own little world. As the learner acquires the ability to read, he should be encouraged in the practice of reading by providing for him supplementary reading matter suited to his ability. The teacher's desk should be furnished with children's magazines and books, which the pupils who have finished work assigned may be allowed to peruse. Such provision will prove both an incentive to diligence and a means of culture.

ORAL READING.

The ability to read so as to profit and please others involves all those qualities of voice, manner, and expression which constitute good elocution. Success in teaching children to read aloud demands constant effort and vigilance. Attention to this matter during the reading lesson alone will not make good readers. Thruout every recitation and in all the speech of the children, the teacher must carefully cultivate those qualities of voice and expression which make reading effective. The qualities which need special attention are *distinctness*, *fluency*, *pronunciation*, and *expression*.

These qualities should be cultivated with the utmost care, from the very first. It is a serious mistake to teach children to read first and teach them to read well afterwards,—to allow them to stammer and mumble in the early stages, with the view that they will outgrow these bad habits as they advance.

DISTINCTNESS.

Distinctness, as a quality of reading, implies giving to each word its clear, full, and correct sound. To secure this quality the following means are suggested:—

The teacher should stand at a considerable distance—say ten feet—from the pupil who is reading, and he should frequently listen with closed book. He can, in this way, judge more correctly of the distinctness as well as of other qualities of the reading. In the matter of distance an exception must be made in the case of very young children, as they need the encouraging influence which comes from nearness to the teacher. The child should stand erect, with shoulders back, head up, and the book held in the left hand, but not immediately before the mouth.

Phonic drill is perhaps the most effective of all the means that can be employed for developing distinctness. This exercise should be begun when the child first enters school, and should be continued thru every stage of his progress. At the first there need be no reference to written or printed letters or words. The pupils should be required to give, as named by the teacher, the elementary sounds of the language, and to repeat words with clear separation of syllables. When the pupils fail to give the exact sound, the teacher should call attention to the particular organ of speech employed and its adjustment in making the sound. The drill should embrace exercises in the distinct naming of such words and combinations of words as are generally spoken indistinctly:—

E.g., *depth, length, white, shrine, government, sixth, blame, elm, builds. He has the mall in his hand. An ever meddling memory. An ice drop. Make clean our hearts. His spot.*

The teacher should write such exercises on the board and drill the pupils on them at the beginning of the reading lesson.

FLUENCY.

Fluency implies an easy, smooth flow of words, and is opposed to hesitating, stammering, and drawling. It should be insisted on from the beginning, as a habit of stammering is overcome with very great difficulty. Lack of fluency generally results from inability to name the words readily at sight. The child lingers and drawls on a word while he is trying to make out the next one. When he is able to read with ease, the eye far outstrips the voice, gathering in a whole line or more at a glance. In the case of beginners, and of all pupils who have acquired the habit of hesitating, a preparatory exercise of *word-calling* should precede the reading of a sentence or paragraph. The pupil must not undertake to read a sentence until he is able to name every word in it as soon as the eye falls upon it. The lesson should be written upon the board, and the pupils should be required to name the words in any order as the pointer rests upon them. Similar drill should be given on groups of words which are closely connected in utterance; as, *the white owl*, *Tom's sled*, *down the hill*. A curved line can be drawn over the group, and the pupils may be required to name the words promptly as the pointer rests upon the curve.

Hesitating and stammering often result from allowing children to move forward too rapidly. If the book is too difficult, the pupil is always struggling in deep waters. Such making haste is most ill-advised and is fatal to successful progress.

PRONUNCIATION.

Children acquire pronunciation chiefly by imitating what they hear; hence the importance of special care in this matter on the part of the teacher. A dictionary is one of the essential equipments of every school-room, and the pupils who are able to read should be taught how to find any given word and ascertain the authorized pronunciation. Pupils should be encouraged to ask at the beginning of the reading lesson for the pronunciation of difficult words in the lesson. It is an excellent plan, also, to write upon the blackboard lists of words commonly mispronounced and drill pupils on them frequently, until they acquire the correct pronunciation.

EXPRESSION.

The reader must understand what he is reading and be in full sympathy with its sentiment and spirit, or he will fail to make much impression on his hearers. One cannot convey to another what he himself does not possess. If the pupil does not understand what he is reading, and does not enter into the spirit of it, the exercise is simply word-calling. The reading lessons should be on subjects which the children can understand and appreciate, and the style should be adapted to their age and ability. The teacher should question the children on the lesson with the view of leading them to understand it more fully and of awakening their interest. He should also read the passage himself to show how its meaning and force can be brought out. Except in the case of beginners, each child should be allowed to read two or three sentences or a paragraph. When confined to a single sentence, the child fails to enter into the spirit of the passage. A good means of awakening interest and securing expression is to allow the pupils occasionally to read from some child's book or magazine.

CONCERT READING.

When properly conducted, simultaneous reading serves good purposes. It gives more practice, which is an important matter where the class is so large that all cannot read separately every day. It also gives confidence and develops voice. It is an exercise, however, that demands great care to guard against bad habits. Its tendency is to develop a style of mechanical reading, characterized by loud shouting and measured movement, with little modulation or true expression. The teacher will find it necessary frequently to ask the pupils to speak in lower and softer tones. The difficulty of properly guarding beginners against these evil tendencies is so great that it is safer not to allow them to read in concert. In the preparatory work of making out words and in drills on words, they may be exercised in concert; but in the reading proper, each should be called on separately.

CRITICISM.

Too frequently the chief part of the teacher's work in conducting a reading lesson consists in hearing the pupils read, hearing their criticisms on each other, and calling on the critic to do better than the one with whom he is finding fault. Children are generally ready to criticise each other. Undue eagerness in this matter should be discouraged. Children should not be allowed to interrupt the pupil who is reading or raise hands when he makes mistakes, until he has taken his seat. They should be taught in their criticisms to notice other features than miscalled words, as distinctness, fluency, pronunciation, emphasis, and expression.

Criticism should not consist of fault-finding. Encourage pupils to notice approvingly those qualities which merit commendation, and when one has rendered a passage in a manner specially worthy of imitation, require the critic to read it in the same manner.

Truro, N. S. J. B. CALKIN.

SCHOOL GOVERNMENT.

Rewards and Punishments in School.*

IT IS very desirable to consider rewards and punishments together and not separately. There ought to be a correlation. If a punishment be a way of expressing blame by words or acts—a means of persuading a boy not to follow a certain line of conduct, and a reward be a concrete way of expressing praise—a means of inducing a boy to follow out a desirable line of conduct already in some measure adopted, then one would expect to find some correlation. Logically one would suppose that the two methods are equally important. Given the principle, one would expect to find the theory of rewards and punishments equally well developed and, roughly speaking, equally used in education. This is not so.

MORE PUNISHMENT THAN REWARD.

In treatises on education the theory of punishments is generally treated far more fully and adequately than the theory of rewards. In practice we find that punishments are out of all proportion to rewards. This leads one to suppose that there may be a defect in our system—a defect on the side of rewards. It is easy to see why this is so. It is much easier to inflict punishment than to reward. In the hurry and stress of class-teaching certain faults come out that must be instantly stopped—*e. g.*, talking, inattention, neglect of work, cheating. We are bound to stop these lines of conduct, and at once, or the work of teaching is impossible. But it may be—I believe it often is the case—that this line of action is not really remedial; it may be a merely temporary expedient, like first aid to the wounded, that does not produce the permanent fruits of righteousness.

Punishment in itself is not a good. It is an evil to endure pain, and all punishment is pain; it is an evil to inflict pain, and it is an evil for the class to witness pain. In some cases it may even be useless.

IS PUNISHMENT ALWAYS A REMEDY?

You may send a boy out of the room for talking, and so stop the annoyance; but will it cure the habit? If you merely cane a boy for lying—only that and nothing more—you *may* cure him, but the chances are that he will only feel that next time he must tell his lie more cleverly. I say we must act with decision and firmly in certain cases; but I submit that, if we think our duty finished by such action, it *may* be that we are really shirking the real difficulty. We are stopping certain evil practices for the time being; it does not necessarily follow that we are eradicating the evil habit. Negative teaching requires to be supplemented by a positive teaching: "Thou shalt not" by "Thou shalt." When adopted as a basis of human society, the Decalog may make it dangerous to steal or commit murder; it will not make a man honest or a respecter of human life.

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*Report of a discussion at the London College of Preceptors.

> "Thou shalt not steal, but Man's tradition
> Approves all kinds of competition:
> Thou shalt not kill, but needst not strive
> Officiously to keep alive."

EFFICACY OF PRAISE.

To attain the higher ideal we must supplement the Decalog by the golden rule, "Thou shalt love thy neighbor as thyself." Herein lies the difficulty of the subject. In what should this "positive" consist? I can imagine a master drawing up a sort of balance sheet of punishments and rewards. He has been dealing, we will say, with Jones, junior, for a term. He finds that Jones is his debtor—

Dr.	Cr.
To one caning.	
" three detentions.	
" scoldings and impositions innumerable.	

What is there *per contra?* He has, of course, expostulated with Jones, talking to him seriously but kindly (and not too much, I hope). Has he ever praised him when Jones has shown a flicker of intelligence, or a fleeting sign of industry? Has he ever shown an interest in Jones's tastes or sympathy with Jones's difficulties? Of course he has. But, I say, there ought to be more than this. If we find the words of *blame* are not sufficient alone to deter Jones from his malpractices, if we find it necessary to request his attention to our scolding by hitting him or shutting him up, it ought not to be beyond the wit of man to discover some pleasant means of emphasizing his *praise.*

WHAT DOES HISTORY TEACH?

At present we have only invented a system of giving prizes, chiefly for intellectual distinctions, quite out of poor Jones's reach—prizes that sometimes tend to encourage covetousness and even unfairness, which can hardly be said to be the concrete expression of the master's approval, for he is merely the humble registrar of the marks on which they were awarded. There are obvious difficulties in the way of rewarding virtue. Virtue is its own reward, and if, with

Milton, "we cannot praise a fugitive and cloister'd virtue . . . that never sallies out and sees her adversary, but slinks out of the race, when that immortal garland is to be run for, not without dust and heat," on the other hand, we feel that a virtue that does enter the lists and strive for garlands will soon become a sort of sham virtue best unrewarded. If, then, we find that our system of rewards is so undeveloped and imperfect, are we quite sure that our elaborate system of punishments is everything it should be? If, on the contrary, it should turn out that rewards are, after all, unnecessary, is it certain that all the punishment we think it necessary to inflict is necessary?

What does history teach us? Nearly every offence was once made capital. Now capital punishment is reserved for murder, and in some countries is not awarded at all. Yet there is a diminution in the percentage of crime. Some centuries ago children were beaten for every offence. But now the practice of caning is similarly restricted, with, it may be presumed, similarly satisfactory results. May we not, therefore, venture to question the utility of other punishments, and even of any punishment on a large scale; and inquire whether it does produce the supposed immediate result, and does help the victim to obtain mastery over himself?

THE BOYS' POINT OF VIEW.

May I venture to suggest that we are liable to look at the problems too exclusively from the schoolmaster's point of view? In the first place, the great bulk of our boys are not directly affected by punishment. They inhabit a temperate clime—a scholastic land of Beulah, between the extremes of the torrid and the frozen zones; they are neither scorched by the master's anger nor chilled by his indifference. There is, of course, punishment in the background; but they are little more influenced by it than you and I are by the fact that there is a policeman round the corner. On the other hand, the bulk of our boys are not greatly influenced by the hope of reward. The more solid material rewards are out of their reach: no use striving for them. Promotion is pretty sure to come in the natural course of things. The praise and approval of the schoolmaster are advantages to be sought if the schoolmaster be a person whose approval is felt to be worth having; not otherwise. If, then, the majority of our pupils are not influenced greatly by either our rewards or our punishments, is there not a *prima facie* reason for supposing that we may be a little pedantic in making so much of them?

Poets tell us that the man is "further off from heaven than when he was a boy"; that the boy is a trailing cloud of glory coming straight from the Divine. Such poets have not had the experience of "teaching school." But, however that may be, the fact remains that the boy's point of view is not always ours. Actions that, from our wider experience, we can see are injurious are to him either a legitimate form of sport or a natural, and therefore justifiable, procedure—as, for instance, carving his name on a desk or talking in class.

We may get some help in our problem if we try to look at it from the boy's point of view. I think he sometimes looks on his master as the hunted Boer must have looked on Lord Kitchener. The master of a great system, who is always fencing in his field of action by block-houses and barbed-wire naturally invites a raid, or at least an attempt to break thru, by those who are rebellious. The majority of the class would say truly: "We are not rebels. Why must our enjoyment of our books be spoilt by this state of continual war? When we are in the midst of an interesting lesson, off goes a gun that makes us jump, or a search-light is flashed around that dazzles and confuses. Half the man's time is taken up doing sentry-duty." Or, to change the metaphor, our staple industry—learning—is sufficiently protected by natural emulation or by marks. If we try to bolster it up by an artificial system of protection, by unequal premiums or drawbacks, by wholesale impositions and retaliatory tariffs, we must have a custom house to deal with them, and we encourage smuggling and waste precious time and temper. Thus we decrease our output; we raise the price, so to speak, of our production, and the ultimate cost must fall on the producer—*i. e.*, the boy.

We ought not to harass the class by being too systematic, by first creating offences and then penalizing infraction of what ought not to have been made a fault. The martinet in discipline is what the pedant is in learning—a bore—and the sooner he is pensioned the better.

DRAMATIC JUSTICE.

There is another class of master, who must appear to the boy as a somewhat feeble imitator of Providence.

We are apt in our enthusiasm to regard our class as a little world. With the dramatic instinct that is in most of us, we desire that vice should be suppressed and virtue be triumphant. But we must remember that a school is a stage where our little dramas have to be played as at a theater—subject to the conditions of space and time. And, therefore, if we try "to play the god upon our foe" and precipitate judgment, or magnify the importance of events in order to point the moral and bring about the sense of poetic justice, we probably become theatrical and not really convincing. A master who thus tries to play the part of Providence is tempted to execute a victim for the public good, and the public probably sympathizes with the victim; or he is tempted to reward a successful hero for the public encouragement, and the public probably think the said hero is merely a "swat" and say so. We must recollect that our even-handed justice, which appears to us so obvious, is regarded by the class from three points of view. The master is the jury that convicts, the judge who sentences, the executioner who carries out the sentence. To satisfy public feeling, therefore, he must weigh the facts fairly and be impartial; he must estimate the guilt fairly and punish justly; and his execution must appear to be inevitable and not vindictive.

The dramatic master is in danger of failing in one or more of these points. As I said, he is apt to exaggerate and precipitate events. Above all, he is apt to give a personal tone to his sentence and execution. You cannot stop him from pointing his moral. "I told you so; the course of dishonest action that begins with dropping a pen is bound, sooner or later, to end in slamming a desk, and now you see the dreadful consequences; take that, sir!" The boys who know Greek say that kind of actor is—a hypocrite.

"IN LOCO PARENTIS."

Lastly, it is a favorite assumption of the master that he is *in loco parentis*, and that the school is a kind of larger family, and should be governed in the same way. If by that he meant that the sentiments of love, trust and mutual help are as essential to the welfare of a school as to that of a family, no one would raise a question. But the conditions of a school and of a family are widely different. With a wider area and larger and more definite aims, the methods are bound to be different; increased stress is now laid on the social virtues—endurance, self-restraint, obedience, industry. And tho, happily, the relation between a master and a pupil is often very close and hardly distinguishable from that between a good father and a good son, yet this must be a result of long intercourse and can only happen in isolated instances.

In the most happily constituted families punishments are unknown, and, tho there are plenty of gifts, rewards are rare. Trained from his infancy by loving words and looks, the child grows up in an atmosphere of goodness, and becomes what his parents wish by an unconscious process resembling attraction. To such a child his parent seems to exact no discipline, to give no training. But the master who regards himself as *in loco parentis* to the boys newly entrusted to his care is bound, or thinks he is bound, to be up and doing; and that is a course attended by several dangers.

The influence of a good man over a boy is a blessed thing for both, but it must be a natural product, not forced or deliberately sought. It would probably be better for him not to try to base his influence on what the boy would most likely consider a "legal fiction," but to recognize the fact that he is a master and not a quasi-parent. If he does his duty in the station of life to which he is called with zeal, persistence, firmness, yet with a kindly spirit, he will assuredly not lose his reward in the respect and perhaps the affection of his pupils.

R. F. CHARLES.

London.

DISCUSSION.

The true authority at school will always be the teacher's personality. A child defers naturally to people older than himself. If he meets with justice and sympathy, he will go wherever they lead him. The child comes to school to be educated, not to be punished or rewarded. All children are not eager for rewards. The teacher should endeavor, as far as possible, to give credit to his pupils in proportion to what it was within their power to accomplish.

—MR. BOLLAND.

There can be no proper government without rewards and punishments. In the present state of things the policeman will be required. At the same time it should be remembered that punishments and rewards ought not be bestowed without reference to a consciousness of desert on the part of the recipients. Human nature is too weak to do without these incitements. The great difficulty is in properly graduating them.—MR. ORCHARD.

The punishments in vogue are wanting in variety. It ought not to be very difficult to draw up an ideal penal code applicable to a boys' school—one in which the punishments are characteristic, efficacious, adequate, and discriminating. The sensitive boy should not be punished in the same way as the boy without nerves. Therefore much must be left to the judgment of the teacher himself. It is very necessary, in dealing with boys, that they should believe in the certainty of the punishment they will incur for a given breach of discipline. Positive rewards—that is, rewards other than the advantage of not being punished, the approval of the teacher and the general opinion of the school—are not easily devised. Herbert Spencer has suggested that a child should be left to the natural consequences of his own misconduct. But in some cases the consequences would be so serious, so disproportionate to the offense, that no rational person can accept the proposition.—MR. BUTLER.

EDUCATIONAL CLASSICS.

Selections from the Writings of Horace Mann.

. . . In his lecture before the American Institute, Horace Mann says, after giving an analysis of the sources of pleasure to a child, among which he includes form, "In regard to all the other sources of pleasure,—beauty, motion, music, memory,—the alphabetic column presents an utter blank. There stands in silence and death, the stiff perpendicular row of characters, lank, stark, immovable, without form or comeliness, and, as to signification, wholly void. They are skeleton-shaped, bloodless, ghostly apparitions, and hence it is no wonder that the children look and feel so deathlike, when compelled to face them. . . .

. . . If, then, in learning, all wills and desires, all costs, labors, efforts, of others, are dependent, at last, upon the will of the learner, the first requisite is the existence in his mind of a desire to learn. Children, who spend six months in learning the alphabet, will, on the play-ground, in a single half day or moonlight evening, learn the intricacies of a game or sport,—where to stand, when to run, what to say, how to count, and what are the laws and the ethics of the game;—the whole requiring more intellectual effort than would suffice to learn half a dozen alphabets. So of the recitation of verses, mingled with action, and of juvenile games, played in the chimney-corner. And the reason is, that for the one, there is desire; while against the other, there is repugnance. The teacher, in one case, is rolling a weight up hill, in the other, down; for gravitation is not more to the motions of a heavy body than desire is to the efficiency of the intellect. Until a desire to learn exists within the child, some foreign force must constantly be supplied to keep him agoing; but from the moment that a desire is excited, he is self-motive, and goes alone. . . .

. . . But one thing should be insisted upon, *from* the beginning, and especially *at* the beginning. No word should be taught, whose meaning is not understood. The teacher should not count out words faster than ideas. The foundation of the habit should be laid, in the reading of the very first lesson, of regarding words as the names of things; as belonging to something else, and as nothing by themselves. They should be looked at as a medium, and not as an end. It is as senseless for a child to stop at the sign of the printed word, in reading, as it would be to stop at the sound of the spoken word, in conversation. What child would not repel the intercourse of a person who spoke to him only words of which he knew nothing? No personal charms would be long sufficient to compensate for speaking to a child in an unknown tongue. How is it possible, then, that an active-minded child should not disdain the dreary pages of a book which awaken no thought or emotion within him;—which are neither beauty to the eye, nor music to the ear, nor sense to the understanding? As reading is usually taught, the child does not come into communication with his lesson, by any one of all his faculties. When a child looks into a mirror, or at a picture where the perspective is strikingly marked, he will reach around to look behind the mirror, or behind the picture, in hope of finding the objects in the place where they appear to be. He cares nothing for the mirror, nor for the canvas;—his mind is with the things presented to his senses. In reading, the page should be only as the mirror or picture, thru which objects are beheld. Then there would be far more delight in looking at the former than at the latter, because words can present more circumstances of variety, beauty, life, amplitude, than any reflecting surface or dead picture. Should we not revolt at the tyranny of being obliged to pore, day after day, upon the outer darkness of a Chinese manuscript? But if the words are not understood, the more regular formation of the Chinese characters gives them a decided advantage over our own letters. Give a child two glasses, precisely similar in every respect, except that one shall be opaque, the other a magnifier. Thru the former nothing can be seen, and it therefore degenerates into a bawble; but the latter seems to create a thousand new and brilliant objects, and hence he is enamored of its quality. There is precisely the same difference in the presentation of words. Yet we punish children because they do not master words, without any regard to their being understood. . . .

. . . After experimenting with every scheme, I believe we shall be driven back to a single resource;—and not reluctantly, for that resource is sure and adequate. Language is to be learned, where it is used; as skill in handling the implements of an art is acquired by practising with them upon their appropriate objects. It is to be learned by conversation, and by the daily reading of such books as, with the aid of free questioning on the part of the pupil, and full explanations on that of the teacher, can be thoroly mastered. The ideas of the learner are to be brought out and set, objectively, before his own eyes, like a picture. . . .

. . . In Scotland, the Spelling Book is called the *Spell Book*, and we ought to adopt that appellation here, for, as it is often used with us, it does cast a spell over the faculties of children, which, generally, they do not break for years;—and oftentimes, we believe, never. If any two things on earth should be put together and kept together, one would suppose that it should be the idea of a thing and the name of that thing. The spelling book, however, is a most artful and elaborate contrivance, by which words are separated from their meanings, so that the words can be transferred into the mind of the pupil, without permitting any glimmer of the meaning to accompany them. A spelling book is a collection of signs without the things signified;—of words without sense, —a dictionary without definitions. It is a place where words are shut up and impounded so that their significations cannot get at them. . . . In teaching children words, in the earlier stages of education, the objects they designate should, as far as possible, be presented. Where the object is familiar to the child, but is one which is not or cannot be present or in sight, then, let it be referred to, so that there shall be in the mind of the child a conscious union of the name and object, as in case of the words *river*, *boat*, *moon*, etc. If the object itself cannot be exhibited, and is not familiar, so as to be referred to, then some representation or model of it should be presented. But let a preference always be given to the object itself, or to the recollection of it, when known. In the school of Pestalozzi, a series of engravings was prepared, representing a variety of objects, whose names, structure and use, the children were to learn. One day the master having presented to his class the engraving of a ladder, a lively little boy exclaimed, "But there is a real ladder in the court-yard; why not talk about that rather than the picture?" "The engraving is here," said the master, "and it is more convenient to talk about what is before your eyes than to go into the yard to talk about the other." The boy's remark, thus eluded, was for that time disregarded. Soon after, the engraving of a window formed the subject of examination. "But why," exclaimed the same little objector, "why talk of this picture of a window, when there is a real window in the room, and there is no need to go into the court-yard for it?" In the evening both circumstances were mentioned to Pestalozzi. "The boy is right," said he, "the reality is better than the counterfeit;—put away the engravings and let the class be instructed in real objects." This was the origin of a better mode of instruction, suggested by the wants and the pleasures of an active mind. Put away the engravings, we respond, where the real objects can be had or referred to. If it be impracticable to exhibit the real object, as it is to show a ship to an inland child, then present the picture, or what is better, a model.

Again, the things, the relations, of art, of science, of business, are to the mind of a child what the nutriment of food is to his body; and the mind will be enervated, if fed on the names of things, as much as the body would be emaciated, if fed upon the names of food. Yet, formerly, it was the almost universal practice,—and we fear it is now nearly so,—to keep children two or three years in the spelling book, where the mind's eye is averted from the objects, qualities, relations of existing things, and fastened upon a few marks, of themselves wholly uninteresting.

The gorges and marshy places in the Alps and Pyrenees produce a race of idiots, known, technically, by the name of *Cretins*. These beings are divided by physiologists into three classes. The Cretins of the first degree are mere blank idiots. But the Cretins of the third degree have great facility in acquiring languages. They can be taught so as to translate the words of one language into those of another (tho without the slighest comprehension of the meaning of either); and what is more remarkable, they will, so far as the rhyme is concerned, make good poetry. If words are taught to children for years, during the most active part of their life, without any of the ideas they are intended to convey, ought we to be surprised if much of our public speaking and popular literature should be the production of Cretins of the third degree?

First and chiefest, in reading, let the lesson be understood; its words, its phrases, its connections; its object, if it have any object; if not, it is not proper for a reading lesson. . . .

. . . And after such teachers as we employ are introduced into the schools, they address themselves to the culture of the intellect mainly. The fact that children have moral natures and social affections, then in the most rapid state of development, is scarcely recognized. . . .

. . . I learn, also, that, with scarcely a single exception in the whole state, the scholars are kept in spelling classes, or they spell daily from their reading lessons, from the time of their earliest combination of letters, up to the time of their leaving school; and yet, if testimony, derived from a thousand sources, and absolutely uniform, can be relied on, there is a Babel-like diversity in the spelling of our language. . . .

. . . I believe Normal Schools to be a new instrumentality in the advancement of the race. I believe that, without them, Free

Schools themselves would be shorn of their strength and their healing power, and would at length become mere charity schools, and thus die out in fact and in form. Neither the art of printing, nor the trial by jury, nor a free press, nor free suffrage, can long exist, to any beneficial and salutary purpose, without schools for the training of teachers: for, if the character and qualifications of teachers be allowed to degenerate, the Free Schools will become pauper schools, and the pauper schools will produce pauper souls, and the free press will become a false and licentious press, and ignorant voters will become venal voters, and thru the medium and guise of republican forms, an oligarchy of profligate and flagitious men will govern the land; nay, the universal diffusion and ultimate triumph of all-glorious Christianity itself must await the time when knowledge shall be diffused among men thru the instrumentality of good schools. Coiled up in this institution as in a spring, there is a vigor, whose uncoiling may wheel the spheres. . . .

. . . The only sphere, then, left open for our patriotism, is the improvement of our children—not the few, but the many; not a part of them, but all. This is but one field of exertion, but it opens an infinite career; for the capacities of mankind can go on developing, improving, perfecting, as long as the cycles of eternity revolve. For this improvement of the race, a high, a generous, an expansive education is the true and efficient means. There is not a good work which the hand of man has ever undertaken, which his heart has ever conceived, which does not require a good education for its helper. There is not an evil afflicting the earth, which can be extirpated, until the auxiliary of education shall lend its mighty aid. If an angel were to descend from heaven, to earth, on an errand of mercy and love, he would hasten to accomplish his mission by illuminating the minds and purfying the hearts of children. The Saviour took little children in his arms and blessed them; he did not, by any miraculous exertion of power, bar up all passages to sin and error, and at once make mankind the passive recipients of perfection. He left it for us to be agents and co-workers with him in their redemption. He gave to us, not so much the boon of being blessed, as the more precious, the heavenly boon of blessing others. For this end, an instrument has been put into our hands, fully adequate to the accomplishment of so divine a purpose. We have the power to train up children in accordance with those wise and benign laws which the Creator has stamped upon their physical, their intellectual, and their moral nature; and of this stewardship we must assuredly give account. May it be rendered with joy, and not with sorrow! . . .

. . . But to make small children sit both dumb and motionless, for three successive hours, with the exception of a brief recess and two short lessons, is an infraction of every law which the Creator has impressed upon both body and mind. There is but one motive by which this violence to every prompting of nature can be committed, and that is, an overwhelming, stupefying sense of fear. If the world were offered to these children as a reward for this prolonged silence and inaction, they would spurn it; the deep instinct of self-preservation alone is sufficient for the purpose. The irreparable injury of making a child sit straight, and silent, and motionless, for three continuous hours, with only two or three brief respites, cannot be conceived. Its effect upon the body is to inflict severe pain, to impair health, to check the free circulations in the system—all which leads to dwarfishness;—and to misdirect the action of the vital organs, which leads to deformity. In regard to the intellect, it suppresses the activity of every faculty; and, as it is a universal law in regard to them all, that they acquire strength by exercise, and lose tone and vigor by inaction, the inevitable consequence is, both to diminish the number of things they will be competent to do, and to disable them from doing this limited number so well as they otherwise might. In regard to the temper and morals, the results are still more deplorable. To command a child, whose mind is furnished with no occupation, to sit for a long time, silent in regard to speech, and dead in regard to motion, when every limb and organ aches for activity;—to set a child down in the midst of others, whose very presence acts upon his social nature as irresistibly as gravitation acts upon his body, and then to prohibit all recognition of, or communication with his fellows, is subjecting him to a temptation to disobedience, which it is alike physically and morally impossible he should wholly resist. . . .

. . . In regard to grammar, too, it is equally certain that a brief series of questions will disclose the teacher's mode of proceeding, and thus establish or set aside his claim to competency in this important department. If the teacher is conversant with no better way than to put a common text-book of grammar into the hands of beginners, and to hear lessons recited by them, day after day, concerning definitions and rules, while, as yet, they are wholly ignorant of the classes of words defined, and have no conception of those relations which the rules express—whatever other qualifications such a person may have, he surely has no aptness to teach grammar. The question is often asked, when, or at what age. children should begin to study grammar. If it is to be studied in the way above described, one would be almost tempted to reply, *Never*. But, if learned in a manner conformable to the order of nature, scholars may commence its study at almost any age. . . .

. . . Tell an abecedarian, as an inducement to learn his letters, of the sublimities of poetry and eloquence, that may be wrought out of the alphabet; and to him it is not so good as moonshine. Let me ask any man, whether he ever had, when a child, any just conception of the uses, to which he is now, as a man, daily applying his knowledge. How vain is it, then, to urge upon a child, as a motive to study, that which he cannot possibly understand! Nor is the motive of fear perferable. Fear is one of the most debasing and dementalizing of all the passions. The sentiment of fear was given us, that it might be roused into action, by whatever should be shunned, scorned, abhorred. The emotion should never be associated with what is to be desired, toiled for, and loved. If a child appetizes his books, then, lesson-getting is free labor. If he revolts at them, then, it is slave-labor. Less is done, and the little is not so well done. Nature has implanted a feeling of curiosity in the breast of every child, as if to make herself certain of his activity and progress. The desire of learning alternates with the desire of food; the mental with the bodily appetite. The former is even more craving and exigent, in its nature, than the latter, and acts longer without satiety. Men sit with folded arms, even while they are surrounded by objects of which they know nothing. Who ever saw that done by a child? But we cloy, disgust, half-extirpate, this appetite for knowledge, and then deny its existence. Mark a child, when a clear, well-defined, vivid conception seizes it. The whole nervous tissue vibrates; every muscle leaps; every joint plays. The face becomes auroral. The spirit flashes thru the body, like lightning thru a cloud. Tell a child the simplest story, which is adapted to his present state of mental advancement, and therefore intelligible—and he will forget sleep, leave food untasted, nor would he be enticed from hearing it, tho you gave him, for playthings, shining fragments broken off from the sun. Observe the blind, and the deaf and dumb. So strong is their inborn desire for knowledge, that, altho those natural inlets, the eye and the ear, are closed, yet, such are the amazing attractive forces of the mind for it, that they will draw it inward, thru the solid walls and encasements of the body. If the eye be curtained with darkness, it will enter thru the ear. If the ear be closed in silence, it will ascend along the nerves of touch. Every new idea, that enters into the presence of the sovereign mind, carries offerings of delight with it, to make its coming welcome. Indeed, our Maker created us in blank ignorance for the very purpose of giving us the boundless, endless pleasure of learning new things; and the true path for the human intellect leads from ignorance to omniscience—ascending by an infinity of truths, each novel and delightful. . . .

. . . I am aware that these school-houses are expensive; but was there not much justness and propriety in the idea of the old Romans, during the better days of the Republic, that public buildings should be magnificent, because they represent the power and majesty of the people; but that private ones should be simple and unostentatious, because it would seem arrogant and presumptuous for a private citizen to attempt to surpass or outshine the sovereign state. Why then should not the edifices erected for our public schools be at least as good as those which private citizens erect? Why should the largest tax payer complain, so long as the building which represents some of the highest and dearest interests of the community is no better than the one which he builds for his own private accommodation? At any rate, why should not the house for the public school,—where the great mass of those children are to be educated, who will hereafter constitute the public itself,—be as noble a structure, as amply furnished, and as beautifully finished, as the private school-house, which is erected only for the accommodation of here and there a family? I can see no reason. While a few of the most wealthy individuals, then, do prepare beautiful apartments, to be occupied as school-rooms for their own children; while they furnish them in the most liberal manner, and provide able teachers to preside therein; it seems to me, they do but authorize and encourage, and provoke the community at large, to prepare buildings equally good, and provide equipments equally generous, and teachers equally qualified, for the children who are hereafter to be—the Commonwealth itself. It is a pity, indeed, if the city, in its aggregate capacity, cannot maintain a successful rivalry, for so noble an object, with a few of the citizens that belong to it. I do not mean to say by this, that I would advocate or justify any competition which would incur one cent of unnecessary or superfluous expense; but only so much as would directly tend to improve the mind, the manners and the morals of the rising generation. . . .

. . . The frame of mind in which a teacher daily enters his school-room is of inexpressible importance. All his personal interests, his business connections, his schemes of aggrandizement or of pleasure, should be left behind him. The devotion and concentration of all his faculties are the property of his school. He should meet his pupils with serenity both of the heart and of the countenance. The storm which envelopes a school during the day, and blights all its joys and its benefits, is often only the spreading abroad of the cloud that lowered upon the teacher's brow in the morning. A teacher, more than any other man, should reserve all his energies for his great work. When an advocate is to argue an important case at the bar of a court,—or when an orator is to address an assembly on some great public question,—he trains himself for the occasion. He regulates his diet. He abandons company, to seek the refreshment of sleep. He spurns the temptation of any pleasure whose indulgence may abate one jot of his body's vigor, or extinguish one spark of his spirit's fire. He stands sovereign over himself,—holding appetite and sense in subjection to his will, that, when the hour of trial comes, no error or oversight of the mind, no lapse or failure even in the tones of the voice, or the wafture of the hand, shall dim the luster of a brilliant consummation. If these observances are worthy of so much attention, when men,—almost impassive men,—are to be affected, what devotion should be bestowed both upon purpose and demeanor, when we are to appear before impressible children? If the sentiment of the community demands all this, when an assembly of adult men and women are to be addressed,—who hold impressions with but little more tenacity than water holds them, and from whose minds, as soon as the impressions are made, they begin to fade away and to be obliterated,—what care and effort can be deemed excessive as a preparation for acting upon children, in whose minds all impressions brighten and deepen by the lapse of time? If a teacher enters his school-room in the morning with a querulous spirit, or a beclouded intellect, instead of attributing to his scholars any unusual perversity or obtuseness, let him ask himself where he was the evening before; what untimely hours he kept; what improper indulgences he yielded to; what cause for the exhaustion either of body or mind, in regard to himself, may have engendered suspicions of refractoriness or of stupidity on the part of his charge. For the noble office of improving others, the first step of preparation is self-improvement. For those who serve at the altar of this ministry, "the first act of worship is the purification of the worshipper." . . .

[These selections were compiled by the late Col. Francis Wayland Parker.]

EDUCATIONAL ORGANIZATION

The National Bureau of Education in the United States

DECENTRALIZED SYSTEM OF EDUCATION.

EDUCATION in America is left entirely in the hands of each individual State; the Federal Government exercises no control whatever, except in the scientific military training of the Army and Navy.

MEASURE OF THE NEED FOR EDUCATIONAL PROVISION.

It follows as a natural consequence from the complete absence of central control over education in the United States that the systems of education adopted by the different states vary very considerably. Until 1867, no idea of co-ordination, or even comparison, appears to have been formulated. Indeed, the actual condition of education in the country as a whole was not specifically noticed by the Federal government until the year 1840, when it was included, for the first time, in the census returns. Upon this subject Dr. Warren, the clerk of the Education Bureau, says: "The serious exhibition of the census of 1860, published in 1862-66, and the evident effects of the great war on the morals, intelligence and prospects of the country, alarmed all thinking men." It was this which first compelled the serious attention of the nation to the necessity for a general improvement in the provision of education thruout all the states of the Union. It had become clear that the whole condition of the population had been disastrously affected by the war; "all the educating forces in the Union had been weakened, perverted, or destroyed;" and urgent new needs had arisen for improving the provision of education, both primary and secondary, and also for bringing it to bear upon an extended portion of the population. To gauge the extent of this need, and to suggest means for meeting it, educators, political economists and statesmen felt the necessity of having some central agency, by which the general educational statistics of the country could be collected, preserved, condensed and properly arranged.

ORIGINAL OBJECTS OF THE BUREAU.

To this end the Bureau of Education was established by the Act of March 2nd, 1867:—

". . . . . for the purpose of (1) collecting such statistics of facts as shall show the condition and progress of education in the several states and territories; and (2) diffusing such information respecting the organization and management of school systems and methods of teaching, as shall aid the people of the United States in the establishment and maintenance of efficient school systems and otherwise promote the cause of education."

The Bureau was to inquire into special educational questions and emergencies, to obtain opinions and suggestions from experts for dealing with the difficulties, to collect accounts of the methods by which other countries have dealt with the same, and to make authoritative recommendations as to the best means to be adopted for making effectual provision for future needs. These functions were not considered to be a matter of temporary emergency; but the whole body of educational information was to be maintained up to date, and available for the innumerable uses for which it is constantly required by the statesman as well as the educational reformer.

Thus in 1870 we find the then Commissioner of the Bureau writes as follows in his official Report:—

"Rarely has anyone looked over the entire field and taken a view so comprehensive as to embrace the opportunities of education in all sections, in the country as well as in the city, over all institutions both public and private, for elementary, secondary, and superior or technical education; or counted the whole educable population; or determined how many are unreached even by rudimentary instruction, and how very limited is the number who have any thorough secondary or superior culture. They can see only in part. No report has ever grouped these facts together. Our own statesmen are without an adequate knowledge of them. . . . . . Shall not the nation at least so group together the facts and statistics that its own officers may know how this work proceeds; and that our ministers and other representatives abroad may be able to speak intelligently in answer to inquiries for information on the subject?"*

When the bureau was once fairly established, Mr. Eaton, the first commissioner for education, gave himself assiduously to the organizing of this great scheme, and the response to his efforts was both immediate and extensive. He soon found that the work developed by the scheme was bound to increase enormously, and that every step of successful extension involved a still further increase of scope, and consequent increase of staff; but the bureau speedily justified this expansion, and proved it to be a work of national necessity.

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*Report for 1870, page 31.

Thus the Report of 1870 says:—

"The number and variety of applications made to this office for reports, documents, statistics, and educational information of every kind, coming from every section of our country and from foreign countries, would convince the most skeptical that there is an urgent demand for some such center of information.

With regard to its centralized character, which was a new feature in American educational organization, the commissioner writes in 1871:—

"The work of this office in collecting and tabulating educational statistics reveals at once its great necessity to the educators of the country and demonstrates the superiority of the facilities of a national over any local office, in prosecuting these inquiries; from the following considerations—

"*First, its* removal from local prejudice and excitement. *Second,* its treatment of education in its generalizations, like other great material interests, as patents, agriculture, coast survey, meteorology, &c. . . . . *Fifth,* without any exercise of authority it brings to the minds of all educators, as they are shaping the institutions and customs of education and molding the character of future citizens, their relation to the National Government. . . *Seventh,* from the collection of facts from a vast variety of sources, great general principles may be educed, vitally affecting every locality."

Again, the more fundamental question as to whether it is, after all, the duty of the state to collect and disseminate information on education, was met by the consideration that, as a matter of fact, the state already recognizes a similar obligation in regard to many other conditions of the social life, as is shown by the returns of the Board of Trade, the Agricultural Department, the Survey Department, the Registrar General, &c., &c. So that, in the matter of the *educational* condition of the people, on which in large measure the welfare of a nation depends, it has clearly become of the highest importance to possess the fullest and most recent information, and every possible facility and suggestion for raising its character and standards.

Thus the Report of 1872 says:—

"The supremacy of nations has long been determined by their power to win in the shock of battle. All efforts to ascertain national statistics were, therefore, formerly determined by this view. They counted only the material of war. But if the supremacy of nations is to be determined by any other test, the inquiry in statistics must be turned in that direction. And in proportion as nations have advanced in civilization, it will be seen that they have been taking into the account of their strength those facts and conditions which test intellectual power, moral power, commercial and industrial power. Thus the conviction grew that more frequent observations and a summary of educational facts as occurring thruout the country, were absolutely necessary."

NEED FOR WIDE COMPARATIVE TREATMENT OF COLLECTED INFORMATION.

Nor would it be an adequate presentment of the case, to produce mere tabular information of existing educational provisions, or statistics showing the extent to which these are used. To be of any real value, the reports must deal with the genesis and evolution of the educational conditions. The historic method of treatment will alone bring out the true inwardness of existing methods and institutions; while a wide application of the comparative method will alone demonstrate the needs, possibilities, and proper direction of real improvement.

This need for a scientific treatment of the subject was fully recognized by the commissioner in 1871, when he appeals in his report for a thoroly intelligent staff for the Bureau:—

"If the work of this office in collecting and disseminating facts upon educational subjects is to be carried to its highest success, ... if its material is to be as trustworthy, as full of the latest information, and as carefully prepared as the educators of the country have a right to demand, the character and number of the commissioner's assistants should be adequate to the subdivision of the vast work in hand. It will be noted that mere clerical ability will not suffice here; there must be power for wise and discreet action and great familiarity with current educational facts. A vast range of reports must be constantly in view in regard to common free schools and private schools, for elementary instruction; to academies and high schools, for secondary training; and to colleges and every variety of professional schools, for superior instruction."

Fortunately, the very evident usefulness of the results achieved by the bureau soon sufficed to obtain for the commissioner some of the increased help that he needed, and he was thus enabled to develop the system to a very high degree of utility.

Thus the National Bureau of Education of the United States makes it possible for her statesmen to gauge the educational condition of the people, and continuously to follow its development in all its branches.

The statesman in America is in this way enabled to judge year by year to what extent his people are receding or advancing in the educational race; to what extent their capacities for mechanical invention and commercial ingenuity, their talents for trade developments and industrial improvements, are being diligently fostered, or in what directions they specially need further attention; while it is recognized that the higher education of the many and the highest education of the few call for the most anxious attention on the part of the state, as surely as does the elementary education of the masses, whose claims have always, from the nature of the case, met with a more ready and complete recognition at the hands of the legislature.

The manner in which the National Bureau fulfils these varied and important functions is of considerable interest; and its operations have been followed by a high measure of success. M. Buisson, a leading educational expert in France, late Director of Primary Instruction in the French Ministry of Education, wrote in 1870:—

"The National Education Bureau at Washington began, a few years ago, the organization of school statistics for the whole extent of the United States; and if one seeks to-day to form an idea of the *total results of instruction*, there is no great country of Europe which forms so complete an exhibit of its educational institutions."

PRIVATE AS WELL AS PUBLIC AGENCIES DULY CONSIDERED.

And it is a striking and most praiseworthy feature of its work that its review of the educational provision of the country is rendered, in a true sense, complete, from the fact that all private and voluntary (as well as public) educational machinery, is included in its purview. Thus the following words of the chief clerk of the Bureau are admirably fulfilled in the daily work of the Bureau:—

"The chief duty of the Bureau of Education, under the law, is to act as an educational exchange. Exercising, and seeking to exercise, no control whatever over its thousands of correspondents, the office occupies a position, as recipient of voluntary information, which is unique. European ministries require paid subordinates to furnish the information needed for the compilation of their official reports; but the great body of intelligent educators of this country gratuitously furnish a mass of information concerning their work, which in character and extent is believed to surpass what is brought together anywhere else."

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DESCRIPTION OF THE BUREAU.

The Bureau occupies a four-story building, with about six rooms on each floor. In the basement are stored the documents published and distributed by the Bureau. There is also a laboratory for the chemical analysis of air and gases in school buildings, and similar investigations, besides various other necessary offices. On the first and second floors are accommodated the large clerical staff, the statistical compilers, and the commissioner. The third floor contains the library and the fourth the educational museum.

The library sets apart two rooms for books and pamphlets relating to education in foreign countries, and four for the rest of the library belonging to the office, including duplicates suitable for exchange with other collections. The foreign side of the library is rich in works both on the theory of education and on its past and present condition in all parts of the world. These reports come in with little other expense to the bureau than the exchange of its own publications with the various offices and institutions from which they are received. Many foreign journals are taken, as well as American publications, so that the more fugitive literature both of European and American education is adequately represented, and many valuable facts, statistics, and clues are obtained.

The museum is in continual process of accumulating fresh material, its object being to illustrate the development of educational apparatus of every description. It is also proposed, when practicable, to select from the material accumulated here, loan collections for use in teachers' institutes, normal schools, &c., &c. thruout the country.

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INFORMATION COLLECTED.

The correspondence of the office deals with almost all the countries of the world, as well as every part of the United States. Communications are maintained with schools, school authorities, universities, private educationalists and every department of educational activity. The information sought and disseminated is of every grade of importance and of every description of character. The following are some of the numerous special subjects that are dealt with from time to time; the various compulsory school laws; facts and arguments bearing on co-education of the sexes in schools and in colleges; instruction for deaf mutes; organization and management of technical schools; hygiene in schools and colleges; the early history of public instruction at home and abroad; the state of primary education in foreign countries, and also of secondary education; methods of military education in Europe; needlework teaching in Germany and in Holland; agricultural instruction in Europe, &c., &c.

SUBJECTS OF INQUIRY.

There still remains to be considered the great publications-section of the bureau. Its objects, under the law, are the study of school systems elsewhere prevalent, the collection of useful suggestions from foreign educational reports and journals, and the examination of the systems of training in the various institutions for primary and secondary education of all civilized countries; in order that whatever is peculiar or excellent in each may be collected with a view to the information and guidance of American educators in their work.

All this information is presented by the Bureau in annual reports, which give abstract reports on the condition of the various classes of instruction (such as primary, secondary, superior, professional and special) in America, with lists and statistics of all noticeable institutions and a general or summarized view over the whole educational field. To these are added occasional circulars of information on various subjects, of which 55 have been published since 1870; besides special reports on topics of particular importance, and smaller publications on topics of minor importance.

The chief part of the contents of these annual reports is contributed by the paid members of the personal staff of the bureau who work up official or other papers and statistics bearing on the various subjects, and also from time to time visit foreign countries for the purpose of special investigations.

Contributions are also solicited from educational experts at home and abroad, and printed in the reports. And it is the practice of the commissioner of education to commission graduates of American universities or other suitable persons who are travelling or temporarily residing in Europe to make inquiries on behalf of the bureau, and to report the results of such inquiries for subsequent publication in the Official Report.

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FUNCTIONS OF CENTRAL OFFICE SYSTEM.

The functions thus fulfilled in the educational system of the United States by the Central Educational Office are manifestly of a high degree of utility; they are characteristically expressed in the following words taken from the Bureau Report for 1884:—

ITS DUTIES AS A CENTER OF EDUCATIONAL INFORMATION AND COUNSEL.

"Our system of education is of the people, for the people, and by the people. It is for the benefit of all children alike, and is wholly dependent both for support and control upon the will of the people, expressed either directly by the popular vote, or indirectly thru legislatures, boards of control, and officials clothed with authority by these bodies. Hence the necessity for diffusing accurate and detailed information as to the condition and working of various school systems and also in respect to the best means of promoting their progress and development, not only among legislatures and public school officials, but among the people at large. And to insure the maximum utility of this twofold information, it must be as fresh as possible, that is, it must be gathered up and made available at short intervals, in general once in each year."

This passage excellently defines the American conception of the value of a Central Education Office as a disseminator of reliable information, both concerning existing means and needs, and also concerning the best recognized methods of improving the one and of meeting the other.

PROPOSED OBJECTS OF THE BUREAU.

The following extract from the memorial presented to Congress, requesting the establishment of the Central Bureau, shows clearly the purposes which it was intended to fulfil: —

"It was the unanimous opinion of the association that the interests of education would be greatly promoted by the organization of such a bureau at the present time; that it would render needed assistance in the establishment of school systems where they do not now exist, and that it would also prove a potent means for improving and vitalizing existing systems. This it could accomplish:—

"1. By securing greater uniformity and accuracy in school statistics, and so interpreting them that they may be more widely available and reliable as educational tests and measures.

"2. By bringing together the results of school systems in different communities, states, and countries, and determining their comparative value.

"3. By collecting the results of all important experiments in new and special methods of school instruction and management and making them the common property of school officers and teachers thruout the country.

"4. By diffusing among the people information respecting the school laws of the different states; the various modes of providing and disbursing school funds; the different classes of school officers and their relative duties; the qualifications required of teachers, the modes of their examination, and the agencies provided for their special training; the best modes of classifying and grading schools; improved plans of school-houses, together with modes of heating and ventilation, &c.,—information now obtained only by a few persons and at great expense, but which is of the highest value to all intrusted with the management of schools.

"5. By aiding communities and states in the organization of school systems in which mischievous errors shall be avoided and vital agencies and well-tried improvements be included.

"6. By the general diffusion of correct ideas respecting the value of education as a quickener of intellectual activities, as a moral renovator, as a multiplier of industry and a consequent producer of wealth, and, finally, as the strength and shield of civil liberty.

"In the opinion of your memorialists it is not possible to measure the influence which the faithful performance of these duties by a national bureau would exert upon the cause of education thruout the country, and few persons who have not been intrusted with the management of school systems can fully realize how widespread and urgent is the demand for such assistance. Indeed, the very existence of the association which your memorialists represent is itself positive proof of a demand for a national channel of communication between the school officers of the different states.

"Millions of dollars have been thrown away in fruitless experiments for the want of it.

"Your memorialists would also submit that the assistance and encouragement of the General Government are needed to secure the adoption of school systems thruout the country. An ignorant people have no inward impulse to lead them to self-education. Just where education is most needed, there it is always least appreciated and valued. It is, indeed, a law of educational progress that its impulse and stimulus come from without. Hence it is that Adam Smith and other writers on political economy expressly except education from the operation of the general law of supply and demand. They teach, correctly, that the demand for education must be awakened by external influence and agencies.

"This law is illustrated by the fact that entire school systems, both in this and in other countries, have been lifted up, as it were, bodily by just such influences as a national bureau of education would exert upon the schools of the several states; and this, too, without its being invested with any official control of the school authorities therein. Indeed, the highest value of such a bureau would be its quickening and informing influence, rather than its authoritative and directive control. The true function of such a bureau is not to direct officially in school affairs in the states, but rather to co-operate with and assist them in the great work of establishing and maintaining systems of public instruction. All experience teaches that the nearer the responsibility of supporting and directing schools is brought to those immediately benefited by them, the greater their vital power and efficiency.

"Your memorialists beg permission to suggest one other special duty which should be intrusted to the national bureau, and which of itself will justify its creation, viz., an investigation of the management and results of the frequent munificent grants of land made by Congress for the promotion of general and special education. It is estimated that these grants, if they had been properly managed, would now present an aggregate educational fund of about five hundred millions of dollars. If your memorialists are not misinformed, Congress has no official information whatever respecting the manner in which these trusts have been managed."

R. L. Morant.

Present Educational Tendencies.

In many sections, both in urban and rural communities, the school is emphasized as a social and culture center. Libraries, reading rooms, evening lectures, and evening classes provide diversified interests that enlist the attention of the people, and help to make a cultured community.

It is better to carry the child to the school-house than the school-house to the child. The concentration of small schools into larger ones, and the transportation of pupils at public expense, is gaining in favor in many states.

The demand for the formulation of a body of educational doctrine, that shall serve as a guide to teachers. Continued experimentation without conclusions does not promote educational progress.

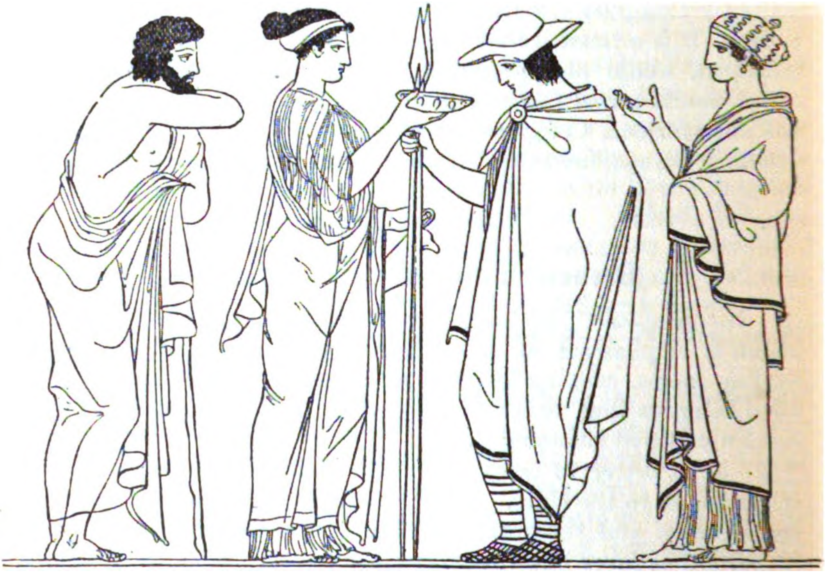
The need of more college graduates in our elementary schools; there is demand for deeper and richer culture, a broader scholarship as a basis for normal training, and skill in teaching.

Birmingham, Alabama. Supt. J. H. Phillips.

CLASSIC ANTIQUITY.

Old Greek Life*

As all the Greeks spoke the same tongue, and worshiped the same gods, so they felt themselves distinct from all the people around them, whom they called *barbarians*. This national pride is one of the leading points in their history. They were justified in this feeling; for in contrast to the other races of southern Europe, the pure Greek was often fair in color, and of very regular and beautiful features. He grew up slower than his neighbors, and so his education was more deliberate, his vigor more lasting, and his old age more protracted than theirs. Even now the traveler in Greece is surprised by the exceeding fairness and beauty of the people, and by the number of fine old men whom he meets. The excellent climate of the country, along with very temperate habits, have made the Greeks a very healthy race, and of this there is no better evidence



Athenians in the attire of the age of Pericles.—(A picture on a vase.)

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*Adapted for EDUCATIONAL FOUNDATIONS from Professor Mahaffy's Primer of Classical Antiquities.

than the rare mention of toothache in Greek books, and the remarkable whiteness and regularity of the teeth of modern Greeks.

As we might expect from people in good health, they were happy in their temper, and ever ready to enjoy themselves, while their own natural good taste and beauty made them keen judges of beauty in other things, and very impatient of ugliness. In fact they set so much store upon beauty, that they were even known to worship it, and were usually disposed to think it the same thing as goodness, if not superior. If they wished to say of a man that he was a perfect gentleman, they said he was "fair and good," meaning by *fair*, not only fair in his conduct, but in his looks, and meaning by *good*, not only good in character, but in birth. They also speak of it as a curious thing, that Socrates was a great and a good man, tho he was very ugly.

But they were not wanting in quick sympathy for other things than beauty. They were always ready to laugh at a blunder, and to weep over a misfortune; to be indignant at injustice, and amused at knavery; to be awed by solemnity and tickled by absurdity.

No doubt these very quick sympathies would have constantly led them astray, but for the great *reasonableness* which was another strong point in the nation. They insisted upon discussing and understanding things, upon hearing both sides, and were generally satisfied to be led by the majority. It was this quality which made them, in politics, love councils and cities, and hate tyrants and solitude; in art it made them love symmetry and proportion, and hate vagueness and display. It made them also in literature love clearness and moderation, and hate both bombast and sentimentality. These are the chief good points of the Greeks, and the causes why they were so great and renowned a people.

But they had their faults also—faults which have remained in the nation to the present day. They always had a strong bent for power, and for money as the key to power, and were not scrupulous as to the means they employed to obtain either. They were not truthful, but were ready to tell lies and to deceive for their own advantage. They were ungrateful, just as people are nowadays, and only a little less cruel than their barbarian neighbors. They were exceedingly jealous of others, and full of envy if beaten or outwitted by a rival. Tho always warring, they were not very courageous; they often cried before a battle, and ran away as soon as it began. So, like all other men, the Greeks possessed a mixture of good and bad qualities.

SPECIAL FEATURES OF PARTICULAR TRIBES.

When we speak of the Greeks as one people, we must not forget that they were separated into many distinct tribes, and that these again occupied separate cities, countries, and islands, with separate laws, and often different manners and customs. Some of the Greeks were hardy mountaineers, some sailors and merchants, some shepherds and husbandmen. Dialects and customs varied greatly. This makes it very hard to describe the Greeks, for what was approved in some places was thought wrong in others. For example, young girls used to join in athletic sports publicly at Sparta, whereas at Athens they were not even allowed to see them. It is hard to tell whether such differences of manners were caused by difference of tribe, or by the force of circumstances.

It is commonly thought that the Dorian race was stern, hard, and conservative in its temper, that the Ionic was soft, pliant, and luxurious, while the Æolian and Achæan was to some extent like each of them. But this came to be believed because the people of Sparta, who were Dorians, were trained to these habits of silence, simplicity, and obedience by Lycurgus. Other Dorians, such as the Corinthians and Tarentines, had the very opposite character. So the Ionians were blamed for luxury and cowardice, and yet no Greek cities showed more vigor and bravery in their day than Miletus and Athens.

UNITY OF GREEK LIFE.

Still in general we may say that the Greeks who inhabited the rich colonies of Asia Minor and of Southern Italy, and who were moreover close to wealthy barbarians, were more given to luxury and indulgence than those of the mother country, "which was ever nurtured along with poverty," and so developed in them a spirit of bravery and freedom as the natural result of thrift and diligence. The character of their various dialects is said to bear out this opinion. But to this, as well as to the usual opinion about the various character of Ionians, Dorians, and Æolians, there remain many exceptions. There were also some mountainous districts, such as Acarnania, Ætolia, and parts of Arcadia, where the culture of the people stood far below that of the rest of Greece, tho their language and general habits always caused them to be classed among Greeks, and not among barbarians. For in spite of all differences, there was ever a striking unity in the Greeks, which made them feel quite distinct from all other people and quite superior to them; and this feeling, like a sort of great freemasonry, was a bond which united the most distant Greeks, whenever and wherever they met. Thus the merchants of Massilia in Gaul and Trapezus near the Caucasus, of Olbia on the Euxine, and Cyrene in Africa, met as fellow countrymen, and talked to one another with ease, while the other nations of the earth held intercourse with difficulty.

This is that unity of the Hellenic race of which Hellenes were so proud, unity which was shown in a common language, a common religion or religions, in great national feasts, and in a general contrast to all the other world as mere barbarians. Perhaps the most kindred feeling we now can compare with it, is that of all English-speaking people in all parts of the world, when they meet among *foreigners*, as they call those who speak any other tongue. The pride which they feel in their Anglo-Saxon race and language is not unlike the national spirit of the Greek.

We see this unity of type most of all in Hellenic art. Their paintings and music are lost to us, but in the remains of their buildings and their sculpture, as well as in the forms of their poetry, there breathes a subtle spirit of excellence, a combination of grace and dignity, a union of the natural and the ideal, which makes them quite unapproachable. Anyone who has studied these masterpieces with care can at once detect even the closest imitations of the Romans, made under the direction and by the advice of later Greek artists.

PREVALENCE OF CITY LIFE.

Whereas modern life is very much a country life, and we see all our plains and hills studded with farmsteads and well-kept houses, it was seldom so with ancient, as it is never so with modern, Greece. In old days the fear of pirates and plunderers, in later days the taste for talking and for politics, kept men from staying in the country, and brought them into the towns, where they found safety and society. The tyrants alone insisted upon country life. Thus we find in Homer that outlying farms belonging to the nobles were managed by trusty slaves, who grazed cattle, and stall-fed them for city use. In Hesiod's time it was the poor farmer only who dwelt in the country; fashionable and idle people always came together in the towns. The very same facts meet us when we read the Greek novels of the latest age, such as the story of Daphnis and Chloe. There are only two large instances of Greek gentry living from choice in the country. The first is that of the old Attic gentry, whom Thucydides and Aristophanes describe as living luxuriously on their estates, and coming seldom to Athens. The second is that of the gentry of Elis, who were often, Polybius says, complete strangers for generations to the town. This was so because Attica was protected by her forts and fleets from sudden attack in these early days, and because the Greeks by common consent respected the land of Elis as sacred on account of the Olympic games. Accordingly Xenophon, who was a sportsman, settled in this country when he retired from his wars. But we must pay our chief attention to city life as the almost universal form of Greek society.

GENERAL APPEARANCE OF THE GREEK CITIES.

The older Greek towns were usually some miles from the sea, because many pirates went about the coasts. These towns grew out from a castle, or *Acropolis*, which at first had been the only fortified refuge for the neighboring people in times of danger. Of this we have a remarkable example in the very old ruins of Tiryns on the plain of Argos. When the population increased, they built their towns round this fort, and walled them in. But the Acropolis or hill fort, generally on some steep crag, was of course the strongest and safest part of the town. It was also the seat of the oldest temples, and of the god who took the town under his especial charge. Hence it was often a sacred place altogether, and not occupied with common houses.

If the town prospered, there grew up at the nearest harbor a roadstead or seaport town, where merchants and sailors carried on their trade. Thus Athens with its Acropolis is three miles from the nearest sea, and more than four miles from the Peiræus, which became its port because the harbor was so excellent. The same may be said of Argos, Megara, and other towns. Thus Corinth had even two ports, one on either sea, and both at some miles distance from the great rock on which its citadel, the Acrocorinthus, was situated. Sparta alone had no citadel, because the passes into its plain were very difficult and easily defended. It had not even walls, but looked like a few mean villages close together. This was a remarkable exception.

The citadel was defended by walls, wherever the natural rock was not steep enough, and supplied with tanks for water, except in such rare cases as that of Corinth which has a rich fountain on the top of its great rock. If you looked down from any of these great citadels upon the town beneath, the most striking objects were always the temples and other public buildings which were meant to be admired from without, whereas the private houses were externally poor and shabby. So also the public squares and markets were large and imposing, often surrounded by colonnades and porticoes where people lay in the sun, or even slept at night. These colonnades were adorned with rows of statues; but the streets were narrow and dirty.

The great contrast to any modern city must have been first of all the absence of all spires and pinnacles, as all Greek architecture loved flat roofs, and never built even in many stories. The forest of modern chimneys was also absent. All private houses were flat and insignificant, for the Greek never intended his house to be admired from without, he merely meant to shut out the noise and the thorofare of the street, and spent all his care on inner comforts.

GENERAL PLAN OF THE GREEK HOUSE.

While we build our houses facing the street, with most of their ornament intended to be seen by those who pass by, the Greek did all he could to shut out completely all connection with the street. He never had groundfloor windows facing the street, and his house looked like a dead wall with a strong door in it, furnished with a knocker and a handle. This door opened outwards, which made it safer for those within, but when they were coming out they used to knock inside lest passers-by might be thrown down when the door was pushed open.

Richer houses did not open directly on the street, but on a porch which was not regarded as part of the house. Directly inside the hall-door was a narrow hall with a porter's lodge opening off it, in which a slave sat, who was put to that work or to that of attending boys, when not useful for anything else. You passed thru the hall or passage into an open square court which was the center of the house, and was surrounded by a covered colonnade or cloister. The various men's rooms and the dining-room opened upon this cloister. The same general plan was adopted by the Romans, and inherited by the modern Italians, so that most Italian palaces in Genoa, Florence, and elsewhere are built in this way.

Opposite the entrance was a second door, which led from the court into the women's apartments, and here was situated the bedchamber of the master and mistress of the house.

In richer houses the women's rooms were built round a second court like the first. But more commonly they did not occupy so much room, and were often placed on a second story, raised over the first at the back part of the building, with a staircase going up from the court.

The Greeks preferred living on the ground floor, and their houses were not lofty blocks, like those of our streets. The bedrooms and sitting-rooms round the court were usually small and dark, being mostly lighted only thru their door into the cloister. The upper story had windows. The roof, which was tiled, was so flat as to allow people to walk upon it. The pantries and store-rooms were generally at the back of the house, and near them the kitchen, which alone was supplied with a chimney. The other rooms seldom required a fire, and, if necessary, were heated with braziers of hot coke or charcoal. The covered way upon which they opened made them cool in summer.

Of course the palaces of early kings and the country houses of the rich Attic nobles had larger rooms and courtyards than ordinary city houses, but their plan was not different. Homer describes their halls as ornamented by plates of bright metal on the walls—a fashion preserved in the house of Phocion at Athens, and of which we still have traces in the so-called treasure house of Atreus, near Mycenæ. Fresco-painting and rich coloring on the walls did not come into fashion till the fourth century B.C., and then became so common that we find almost all the houses in Pompeii, which was really a Greek town, tho in Italy, ornamented in this way. There are large panels of black, scarlet, or yellow, surrounded with rich borders of flowers, and in the center of the panel there are figures painted, when the owner could afford it. The same style of ornament, with far better execution, may be seen in the chambers of the palace now excavated on the Palatine at Rome.

THE FURNITURE OF THE HOUSE.

As the Greek citizen lived chiefly in the open air, and in public, and regarded his house merely as a safe and convenient place to keep his family and store his goods, it was not to be expected that his furniture should be expensive or elaborate. The small size of the rooms and the dislike of the Greeks for large entertainments also tended to the same economy. Besides, the low valuations of furniture alluded to in several speeches made in the law courts of Athens prove it clearly as a general rule in earlier days, tho some cities, such as the rich Sybaris, may have formed exceptions. In later days, with the decay of public spirit, greater luxury prevailed in private life.

We must therefore consider early Greek household furniture to have been cheap and simple, but remarkable for a grace of design and beauty of form which have never since been rivaled. And these were combined with a diligent attention to comfort and to practical use. Thus the Greek chair which is often drawn on vases, and which is reproduced in marble in the front row of the theater at Athens, as we still see it, is the most comfortable and practical chair yet designed. So also the pots and pitchers and vases which have been discovered in endless variety, are equally beautiful and convenient.

The chief articles of which we hear are chairs, stools, and couches, made in ornamental woodwork, with loose cushions; there were also high-backed armchairs, and folding stools, often carried after their masters by slaves. Tho men of ruder ages and poorer classes were content to sleep between rugs and skins on the ground, and a shake-down for a sudden guest was always such (and is so still); yet the Greeks had beds of woollen mattresses stretched on girths.

Hephaistos, clad in the Exomis.
(A bronze statuette preserved in Berlin.)

Fastening her Chiton.
(A bronze statue preserved in Naple

Tables were only used for eating, and were then brought in, and laid loosely upon their legs. In early days each guest had a separate table for himself. This absence of solid tables must have been the most marked contrast between a Greek room and ours. People wrote either on their knees (as they now do in the East) or upon the arm of a couch.

Whatever ornaments they kept in their rooms seem to have been placed on tripods, which often carried a vase of precious metal and of elegant workmanship. The wonderful variety and beauty of their lamps must also have been a remarkable feature. They possessed all manner of cups, bowls, jars, and flasks for wine, and water, and oil, and we have long lists of names for kitchen utensils, probably not very different from those found at Pompeii. They used plates and dishes, and sometimes knives and spoons at meals, but never forks.

THE PUBLIC BUILDINGS OF THE GREEKS.

In contrast to their simple, and often rude, private houses, which were only meant to be seen inside, the public buildings of the Greeks were extremely handsome and costly, and mainly intended to be admired from without. Thus their public places of assembly and public markets were generally surrounded with handsome colonnades, often of marble, and painted with frescoes, so that when men met together for public business they found themselves in a square like the court of their private houses, but on a larger scale. We are able to judge of these porticoes by the remains found in the agora of Pompeii.

The gates of their cities were also handsomely built, and the gateway leading into the Acropolis of Athens was considered a model of beauty all over Greece.

In the ports they also built great docks, and marts where merchants could exhibit samples of the cargoes they had for sale. After the time of the architect Hippodamus (440 B.C.) they even began to lay out the ordinary streets at right angles, and the Peiræus was rebuilt in this way, something like the plan of New York.

There were officers entrusted with the care of public buildings, roads and aqueducts, and with the safety of the streets; they also prevented any encroachments on the part of private citizens.

THE TEMPLES.

But of all public buildings the Temples were far the most remarkable. They were in Greek towns of the same importance as the churches were in towns of the Middle Ages, and were in the same way the chief object of interest to all travelers and visitors. They were so massively built that portions of them have lasted to this day, and by means of these ruins we can study and describe their plan and structure. The most remarkable remains of these temples are at Pæstum (Posidonia) near Salerno, at Girgenti (Agrigentum) on the south coast of Sicily, at Ægina, at Sunium, and above all at Athens in Attica. The foundations of many more have been discovered. Among the most celebrated in old times were those of Hera at Samos, of Artemis at Ephesus, of Apollo at Delphi, and of Athene (the Parthenon) at Athens.

All the temples were built upon sites which had long been sacred to a god, generally on "high places" like those mentioned in the Old Testament. At first the gods had been worshiped in the form of rude stones, or of trees, sometimes carved roughly into the form of an image. There had been an altar before the god, but no covering or temple. But when the Greeks began to carve marble statues, and offer rich gifts to their gods, it was necessary to provide them with a suitable covering.

For this purpose they imitated in stone the ordinary wooden building, which is made by upright posts, beams lying across these posts, and a sloping roof made by others meeting in a gable. The principle of the arch was not employed. This simple plan was enriched by multiplying the upright supports, and carving the surfaces and ends of the cross beams, as well as by richly coloring the whole with blue, red, and gilding. The result was the so-called Doric style of temple, which was varied, but not improved, by what is called the Ionic, and afterwards by the Corinthian style of architecture. These three styles are distinguished by the treatment of the pillars, and of the entablature, or course of building immediately over the pillars.

The Doric pillar rose straight from the pavement, without having, as the others have, a base of different pattern. The shaft is fluted, with a sharp line separating the grooves, and is tolerably stout, in older temples only 4 1-2 of its own diameters in height. It swells slightly in the middle. At the top is the widening plain capital circular in shape, and over it a flat square block, or abacus. The broad beams joining the tops of the pillars are called the architrave, and represent the beams of wood which were used in the earliest building. Over these lay the beams, which ran down the building and formed the ceiling, and these showed their ends over the architrave. Accordingly the second course of the Doric entablature, called the frieze, has triglyphs, which represent the ends of the beams scored with grooves for ornament, and between them empty spaces called metopes, which were, however, in stone temples covered with a slab of stone, and ornamented with figures. Over the frieze came the cornice, or projecting part of the entablature, and then the gable, which was filled with a flat triangular surface, or pediment, and usually adorned with sculpture. All the pillars and sculptures were painted with red, blue and yellow, and much gilding was used.

The Ionic and Corinthian orders differed in the design of the capital, in the entablature, which they made a flat band to receive sculpture and painting, and in having a base for the pillars, and slender shafts with separated flutings. Greek temples might have pillars in front only (prostyle), at both ends (amphiprostyle), all round (peripteral), and even in two rows (dipteral), as in the temple of Olympian Zeus at Athens. These were the principal features and are sufficient to give a general idea of the structure of the temples.

It may be observed that Ionic pillars, tho generally employed in Asia Minor, were seldom used in Greece except for small and highly ornamented temples or for interiors, and that Corinthian pillars, which were not known before Alexander's time, only came into fashion with Roman building in Greece.

While the outside of these temples was so splendid, and the broad steps and colonnades so convenient for crowds of worshippers, the walled-in part (or cella) was simple and dark. It was generally divided into the ante-chamber, the shrine, and the treasury, with other small rooms behind the shrine. The shrine was covered only over the statue of the god, the rest was partly open, to allow incense and smoke of offering to rise freely. The Greeks had also a strong feeling that prayers should be offered under an open sky. In large temples there was a colonnade inside the cella wall, parallel to the outer pillars, and this supported the roof. Similar in style to the temples were the colonnades and porticoes which were usually built round market-places, and along quays in seaport towns.

FORTS AND WALLS.

These were not imitations of woodwork, and were not built for ornament, but merely for solidity, originally of huge natural blocks of stone, piled together as they would fit best. This sort of building is called Cyclopean, and at Tiryns we have even covered passages in a very thick wall with windows constructed in this rude way. We find then a more advanced stage called polygonal building in which the stones were cut partially, but not squared, and fitted with the aid of small stones, often with rubble inside. But some of these polygonal walls are so carefully fitted that the joinings are hard to find, as we find in a wall at Megara. This close fitting without mortar, when the stones were cut square and merely clamped with iron or lead, is the general characteristic of the best Greek walls, such as those of Eleutherae, Phylae, and Messene, where the most smooth cutting, and the most accurate fitting, have made the Greek forts almost imperishable from natural decay. This sort of wall building has been particularly described by Thucydides as employed to fortify the Piraeus, but in this case the work was deliberately destroyed, and hardly a trace now remains. J. P. Mahaffy.

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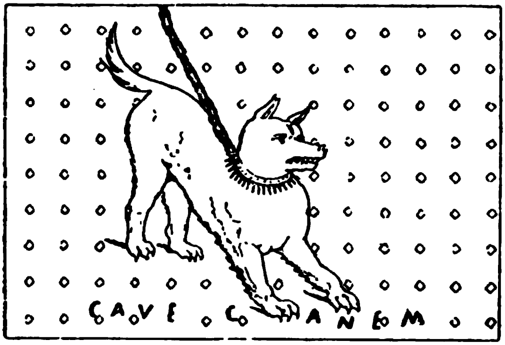
HISTORY OF CLASSIC ART.

Roman Art.

CONTINUING our journey, we cross over to Sicily, where the ruins of mighty Greek temples rest on the hillsides. Then in Lower Italy we pass Pæstum, where we studied the Doric style in the temple of Poseidon. On all sides we see monuments of Greek art.

Now at the foot of Vesuvius in the sunny Campagna we will examine the Greek as well as the Roman dwelling-house, and see once more how the Greeks especially contrived skilfully to unite beauty with utility.

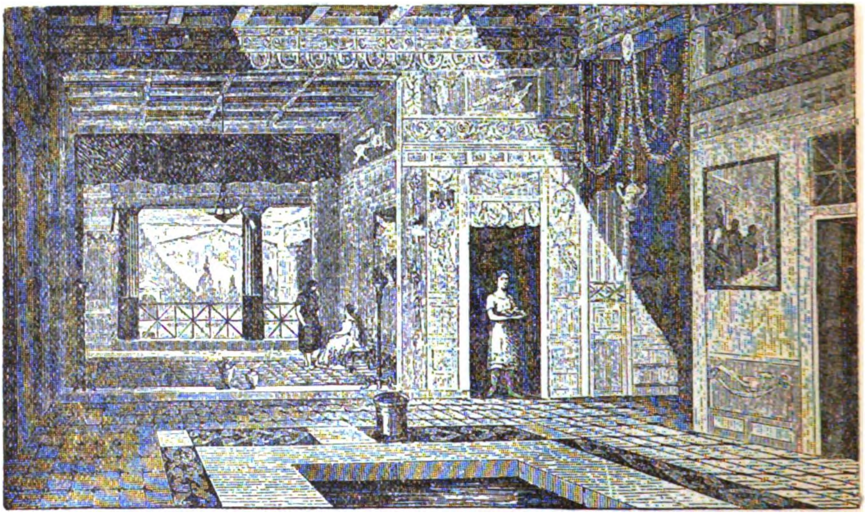
Wandering thru the excavated ruins we get a good idea of the Roman provincial town of Pompeii at the time of its destruction in the year 79, A. D. It stands on the seashore in the midst of a grove of olives, poplars, mulberries, among which are visible its temples, porticos, theaters, and houses of one and two stories. An amphitheater of lofty hills surrounds the valley. The nearest of these, Vesuvius, with its two cones, sends a grey cloud of vapor floating over the town, while the black lava of the first eruption has rolled threateningly into the luxuriant life of its fields and vineyards. In the hedgerows we notice orange and peach-trees joined by festoons of vines with the finest grapes. The rich soil bestows this three-fold gift.



Mosaic of Pompeii.—Chained dog as guardian of the house.

We enter thru a round arched gate into the outer district of the town within the wall, and walk along the street of the tombs and thru a second gate into the inner city. From without, these low houses with their small windows appeal very little to our modern ideas. However, we presently notice elegant shop windows with outspread wares. Gods and heroes adorn the colored walls, and the inscription over the doors bids us "salve" (welcome). On a slim square pillar we find busts of Apollo, here called Ægyrius, the guardian of the streets. Such pillars are called Hermes, and are found in great numbers both here and in other cities of the Old World.

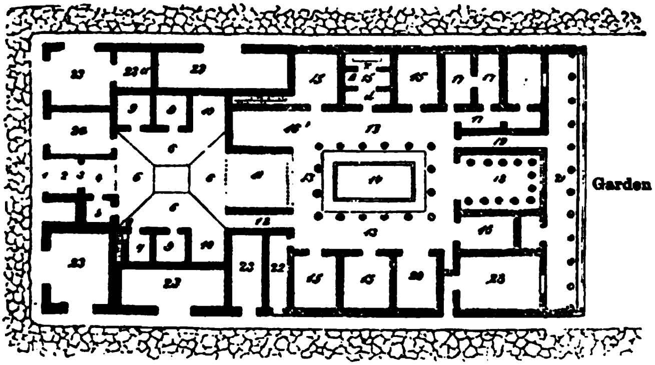
Let us choose for our first visit a house which is pointed out as Greek by Overbeck. A Hermes stands in the entrance, which is plain and free from ornament. But then what spacious, cheerful, pleasing prospect the unsightly exterior concealed from us. First we enter a court (atrium) open in the center, but surrounded by a covered corridor (peristyle) supported by columns and set round with statues. Beyond, thru a second door, we can see into an inner hall with a double row of columns, and still further thru a narrow passage into the garden, which looks out on to the open landscape or a picture painted to imitate it. After we have enjoyed the general effect, we look around more carefully, and see on the right, thru a half open door, the horses, who are lodged under the same roof as the men, on the left a small room for the use of the attendant slaves. Other apartments are sometimes let out to merchants or mechanics, and these have doors and windows from



View of a Pompeiian House.—Restored.

without. We next pass thru the door (thyroreion) of the house, and find ourselves in the first hall (aula), in the middle of which stands an altar dedicated to Zeus, the guardian (Herceus). Around this hall are situated the dining-room, the reception room, and other chambers, forming the whole of the men's apartments. In the middle of it stands the domestic altar with the sacred figures of the gods, casting a poetic glamor over the whole house. Frescoes of myths and heroic deeds of olden times adorn the walls. The simple, convenient, and finely designed furniture is in complete harmony with these surroundings.

After we have looked at these rooms, we enter the second hall. This can be shut off by a door from the rest of the building, for around it are grouped the women's apartments. This arrangement of the house reminds us of the social isolation of women in ancient Greece. Only those who were distinguished by their talent and wit, like Sappho, Melitta, Aspasia, shared the social and intellectual life of the men. At the back of the second court a further passage takes us into the workroom; here stands the statue of the goddess Athene Ergane, the instructress in the domestic arts. She watches over the making of the splendid fabrics which come from the hands of the housewife, her daughters and slaves. The room is lighted by two windows looking out into the garden.



Plan of a Normal Roman House in Pompeii.

, 2, 3, 4, Entrances
5, Porter's Lodge
6, Atrium
7, Stairway—Wings
8, Bedrooms
10, Alae—Side-wings
11. Tablinum
12, Connecting passage, called the fauces, leading to
13, Peristyle with columns
15, 16, 20, Rooms
18, Dining Saloon, oecus
19, Passage to
21, Vegetable garden
22. Stores or shops, rented out

In the garden we see gay beds with a wreath of flowers, vines, and fountains, and an altar on which offerings are made to the god of the garden. The flowers are used for garlands for the heads of men and women, and to decorate the rooms on festive occasions.

On our way back we pass by the bridal chamber lying to the left, close to the work-room. In an alcove stands the bridal couch beautifully worked in bronze, wood, or ivory. The toilet table is covered with charming vessels artistically decorated. The treasure chest too, which is kept here, is simple and beautiful.

The opposite room seems to have been the daughter's bedroom. The rest of the rooms at the side of the court formed the domestic offices. Even the kitchen is pleasant to look at; the utensils, from the bronze bowl to the commonest pot, are as convenient as they are graceful in form and decoration, and are often of exceeding beauty. Arabesques and wreaths of flowers are even to be seen in the grouping of the meshes of a sieve. Elegant lamps with three wicks are suspended by chains, and the weights for the scales are little busts.

Still more do the wine jars, bowls, and cups show in form and decoration the most natural feeling of beauty, and can be at once distinguished from the Roman by this, that no useless decoration ever appears on them. For example, plates and dishes are never decorated where the ornament would be covered in use, but only on the border or handle, and frequently indicate their purpose by some painted or sculptured object, or even by the form itself. Thus a water jar is distinguished from an oil jar, not only by the width of the neck, but also by the wavy ornamentation which indicates the ripple of the water.

All these things teach us the principle that true beauty is to be attained by the simplest means, while excessive elegance and splendor are hateful to a refined taste. Sense of beauty and poetry will easily discover the right way of producing an agreeable effect in furniture and dress with the simplest decoration, by arrangement alone.

We wander further thru the Greek house, and find the furniture like the other fittings, not rich, but beautiful and appropriate Chairs and tables are only ornamented about the legs, benches have voluted ends for convenience of use. The vases should be carefully examined, not merely the varieties of form, but still more the figures with which they are decorated. These figures, usually in red and yellow on a black ground, afford a rich and progressive series of illustrations of the history and principles of decorative art. The lamps and candelabra are also for the most part beautiful works of art. The highest decoration, the frescoes, we must examine in a Roman house, for in the Greek houses all the paintings have perished.

The kindly welcome, *Salve*, we do not meet with over the door of the Roman house, but instead of it, in the vestibule, the warning, *Cave Canem*, beware of the dog. Fortunately it is only in picture, in mosaic on the pavement, that the dog jumps upon us in entering. The walls are harmoniously decorated with colored marbles. We see at once on the opening of the door that the Roman house is more ornate than the Greek; but the general view of the two courts and the garden, with the landscape painted on the wall, is the same. The first court, called the Atrium, has instead of the altar a reservoir (impluvium) for the rain water, which falls thru the opening (compluvium) of the roof. The roof is not supported by columns as in the Greek house, but by beams ornamented with arabesques.

Mosaic of Pompeii.—Eros as Lion Tamer.

Instead of the passage with a door into the second court, we find here a room with curtains in the place of the front and back walls. This space, which is called the Tabulinum, on account of the family portraits kept in it, is decorated not only with pictures and statues, but also with a hanging lamp and candelabra. Here the guests are received, and are at once reminded of the family history by the portraits on the walls. The mosaic of the floor represents a dramatic rehearsal.

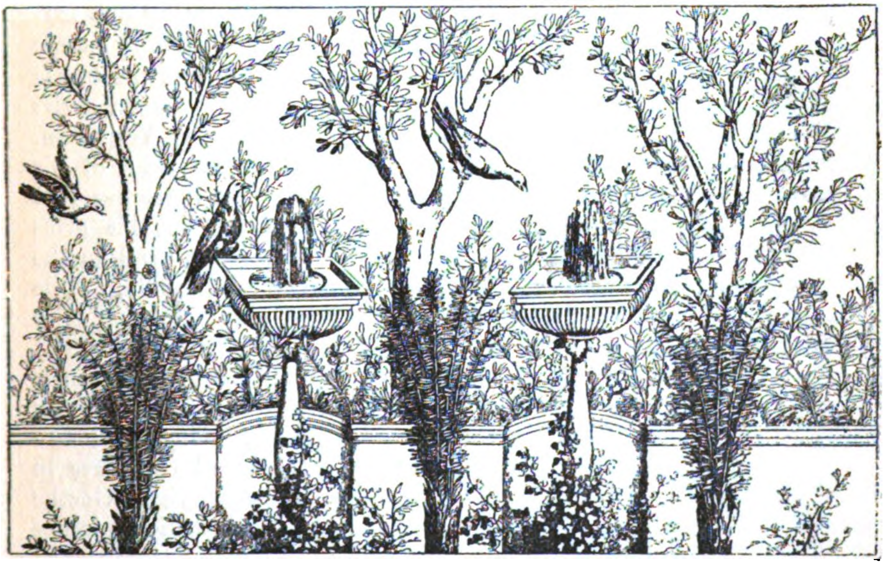
The atrium is attractive on account of its charming paintings. On red, blue, and yellow ground, the leading scenes of the Iliad stand out, gaily surrounded by smaller landscapes, birds, flowers, and fruit; all are suitably grouped, one color softening the other, and combined in such a happy harmony that the multiplicity is not confusing. The paintings aim at deceptive realism; these birds which seem to have just flown in, these flowers brought for a feast, soften the seriousness of the picture. The whole is only slightly sketched, and yet is in part suggested by the works of the most famous Greek painters. Here is the surrender of Briseis to the herald of Agamemnon. How noble is the heroic figure of Achilles on his throne; what anger and grief in his beautiful face! In obedience to the other Greek generals, he has just given the signal for the sad departure of the sweet and beautiful maiden, who in painful agitation is led away on the arm of Patroclus. Behind the tents are seen the heads of the heralds. A foreboding of the evil that is to arise from the withdrawal of the greatest hero of the Greeks, pervades the scene.

In a second fresco we see Hera on Mount Ida trying to persuade the father of the gods to help the Greeks to victory over the Trojan ravishers of Helen. She has the grandeur and dignity which befit the goddess who watches over the fidelity of marriage, and one feels that in spite of his promise to Thetis Zeus will follow her counsels; this conception of Hera is entirely different from Homer's. Between these pictures there are figures conceived in a lighter vein—a triton riding on a sea-horse carrying off a nymph; Cupid mounted on a dolphin; Venus, whose dove carries a sprig of myrtle in its beak; fruit, and other charming trifles.

In one of the apartments we might think ourselves in an aviary, so accurately is the movement of the little inhabitants of the air portrayed on the red and yellow wall. Another room contains more important mythological pictures—Phryxus and Helle, the rape of Europa, and some others which indicate the decline of morality which accompanied the establishment of the empire.

We now reach the second court (peristyle); not by way of the tabulinum, the curtains of which are usually drawn, but thru a narrow passage called the Fauces. There we seem to see columns, steps, and even a pond with swans on it beyond; all these are frescoes on the walls of the passage. The court we come into is open and surrounded by a peristyle with Corinthian columns, into which the rooms open. The courtyard within the peristyle is often laid out as a garden, with laurels, fountains, etc., if there is no other in the house. Generally this space contains the best works of sculpture. It is never shut. The Roman lady had certainly a much freer position both in the family and in society than her Greek sister.

Near the sitting-rooms and bedrooms we find a sort of chapel with an altar and the statue of the tutelary god. Looking into the dining-rooms, of which there is a shady one for the summer and a warm one for the winter, we see that the walls are covered with humorous pictures to amuse the guests as they lie on the three couches around the table—Leda with a nest of children, the sale of Cupids, etc. All the pictures are surrounded with broad frames of arabesques. Dancing girls and warriors, as well as the myth of Narcissus, are charmingly delineated on the walls of one of the houses in Pompeii. The dancers charm us by the gracefulness of their movements, and sometimes rise to the expression of a certain sublimity of motion. It is supposed that they were drawn from real figures of persons of humble station, who earned their living



Mural Decoration: A Pompeiian Garden.

by dancing at banquets. Beautiful figures like these are still to be met with among the Contadini in Italy.

We almost hesitate to step on the mosaics of the pavement, for upon it are swans and fishes as if alive. This is quite as unnatural as the rehearsal. The Greeks had too fine an æsthetic insight ever to transgress the principles of decorative art in this way; they invariably confined the decoration of the floor to arabesques and geometrical figures. The habit of covering the floor with realistic designs—the most absurd example of which is the scattering of the dining-room floor with bones, orange peel, and bread crumbs—only arose when good taste had begun to decline.

The fresco of the Sacrifice of Iphigenia at the end of the peristyle is refreshing to look at after this, being probably a copy after one of the old Greek masters. The father hides his face in the extremity of his grief, the young and beautiful daughter looks passionately to heaven, where Artemis is just appearing to save her.

In one of the houses at Pompeii, the most important mosaic of the ancient world has been excavated. It represents the battle of Issus, and is probably a copy of a picture by a woman artist Helena, which, it is recorded, was brought to Rome by Vespasian. Alexander, bareheaded, is charging furiously at the head of his cavalry, and has struck down a Persian noble whose horse has just fallen. Darius, standing in his chariot, stretches out his arms towards his wounded friend. The other Persian officers call on the king to flee, the charioteer is flogging the horses into a gallop, while a trusty follower has just leapt from his horse and is offering it to his sovereign to escape upon. The king, however, sees nothing but the struggle raging round his fallen general. The composition is admirable; the whole incident is shown with wonderful simplicity and clearness; the figures are drawn with extraordinary vigor and truth. Such faults as it has, the fore-shortening of the horse in the center for example, are probably due to the copyist. Goethe and other critics have spoken of it as the greatest historical picture the world has seen.

Much as we have found to admire in the paintings at Pompeii, their excellence is in design rather than execution; the actual painting is by no means of extraordinary merit. This is exactly what we might expect, for the designs are probably taken from the works of great artists, but have been carried out by the ordinary house decorators. We cannot therefore draw any conclusions about the technical merits of ancient painting from an examination of these works.

EDITORIAL NOTES.

The chief difference between good and poor schools is to be found in the pupils' power to think. Schools that limit themselves to the transmission of knowledge and drill in accomplishments leave the world as poor as they find it. The teacher who develops power in his pupils is the real benefactor of the race. Knowledge in itself is not power, it is merely the dead fuel which the fire of the mind may utilize for the increase of dynamic force. The only reasonable standard for gauging the efficiency of a school would seem to be the ratio of dynamic development. Competitive studies of the results achieved by the best teachers will reveal the degree of thought power to be expected under varying conditions. Dr. J. M. Rice has blazed the way toward a scientific solution of the question. His article in EDUCATIONAL FOUNDATIONS last month gives the key. A further discussion of the chief points involved will be presented in a late number.

The great educational awakening of the past twenty-five years notwithstanding, bookishness is still too largely ruling the teaching in the schools. The chief reason for its continuance are its incontestible cheapness and the poverty of the minds of teachers.

That country is indeed poor which feels unable to supply more than the most meager kind of opportunity for the development of noble womanhood in its daughters. There should be no stinting. The higher education of woman should stand for nothing less than the training to fullest womanhood.

With the Louisiana Purchase exposition, the National Democratic convention, and the National Educational Association going on simultaneously, St. Louis is going to have a lively time of it. How the N. E. A. will fare under this condition of things is another question. Poor Dr. Shepard!

An Experience Record.

A most valuable record for the teacher to acquire is a diary in which he enters day by day what he has taught, the methods employed, difficulties encountered, cases of discipline, how the "dull" boy's interest was aroused, bright answers, etc. The most important points of this nature might be noted down at the end of every recitation, as the memory cannot always be relied upon. The others may be added after school. A few significant words will do. At the end of each week (or month) the most valuable notes are transferred to a large book which might be labeled, "My Experiences in Teaching."

By this means the teacher will constantly have access to a vivid picture of his successes and failures and of the reasons responsible for them. He will have occasion in his daily preparation to consult his observations of individual pupils and the nature of children in general, to revive his experiences regarding the relative value of methods and the ways and means best suited to his particular class; how this or that "dry" study was enlivened; how those who had appeared incorrigible were won; how the little ones were kept busy and interested while the older pupils recited—these and many other helpful pointers he will find whenever he turns to the pages of "Experiences."

A record of this kind will also aid the teacher to avoid the repetition of mistakes, to prevent a good work once well begun from being forgotten and left unfinished; it will stimulate to greater and more intelligent effort and strengthen his love of his calling.

Partial List of Contents Planned for March Educational Foundations.

Questions and Answers,

By John Adams.

Comenius and Thring,

By Arthur Gilman.

Review Questions Covering the Work of Educational Foundations from December to February.

Physical Training,

By W. H. Elson.

CHILD STUDY,

Mental Strain, By William A. Hammond, M. D.

Cruel Treatment of Deficient Pupils (Results of the Neglect of Child Study.) John Dalziel.

Study of Eyesight in School. (Symposium.) R. Brudenell Carter, E. W. Scripture, and Webster L. Fox.

TEACHERS' EXAMINATIONS.

The questions given in this department have been selected from papers used at recent teachers' examinations in several states. The answers are necessarily suggestive rather than final, tho their accuracy can be depended upon as far as they go.

Texas State Examinations.

COMPOSITION.

Answer any five.

1. Describe in a general way the form and character of Anglo-Saxon words in English, and discuss the principles that should govern the use of such words.

2. Give two examples of each: (a) barbarisms, (b) improprieties, (c) provincialisms.

3. Write a sentence illustrating a fault in unity.

4. For the paragraph, as well as for the sentence, *unity* and *emphasis* are the characteristics of good construction; briefly explain the meaning of these terms in reference to a paragraph.

5. (a) What are synonyms?
(b) Write sentences using discriminatingly: product, production; devote, apply; close, conclude; connection, relation; contest, dispute; defend, protect; notice, remark, observe.

6. (a) What is the proper preposition to follow, in usual combinations, each of the following: absolve, accord, acquit, comply, dependent, independent, dissent?

(b) Give two prepositions which properly follow each of the following words, and state the difference in meaning or application caused by the change of preposition: agree, change, confer, confide, disappointed, taste.

7. Name a short literary example of each of the following forms of composition: (a) narrative, (b) description, (c) exposition, (d) argument, (e) lyric poem.

ANSWERS.

1. Saxon words belong to the mother element of the English tongue. They name the things known to our ancestors. They denote the qualities, acts, states, and relations of these things. They should be preferred when the writer wishes to express himself with great simplicity, directness, and force.

2. (a) I wis in all the Senate. Not by a long shot. (b) I have no doubt *but* he will come. Of two evils choose the *least*. (c) He skedaddled. They did not pan out.

3. After we reached New York, they soon conducted me to the house, where I was received by my friend, who greatly rejoiced to see me.

4. (a) Unity is that property which keeps all the parts in connection with the principal thought, and logically subordinate to it. (b) Emphasis gives prominence to logically important thoughts.

5. The name synonym is applied to words not identical, but similar, in meaning.

6. (a) Absolve from; accord with, or to; acquit of; comply with; dependent on; independent of; dissent from.
(b) Agree with, to, among; change for, with; confer with, on; confide in, or confide it to; disappointed of, or in; taste of, for.

7. (a) Tales of a Traveler. (b) Mosses from an Old Manse. (c) The Descent of Man. (d) Burke's Speech on Conciliation with America. (e) Ode to a Sky-Lark.

New York State Uniform Examination Questions.

GRAMMAR.

1 I cannot repeat too emphatically, that there is not a single
2 fact in embryology to justify the assumption that the laws of
3 development, now known to be so precise and definite for every
4 animal, have ever been less so, or have ever been allowed to run
5 into each other. The philosopher's stone is no more to be found in
6 the organic than the inorganic world; and we shall seek as vainly
7 to transform the lower animal types into the higher ones by any of
8 our theories, as did the alchemist of old to change the baser metals
9 into gold.

—Louis Agassiz.

The first eight questions refer to the above selection.

1. Select three subordinate clauses and state what each modifies.

2. Select and classify the modifiers of *a*) *laws* (line 2); *b*) *to transform* (line 7).

3. Give the syntax of *a*) *fact* (line 2); *b*) *world* (line 6); *c*) *alchemists* (line 8).

4. Select three different conjunctions, and state what each connects.

5. State where in the conjugation of the verb each of the following is found, and what office each performs: *a*) *to justify* (line 2); *b*) *to be* (line 3); *c*) *to run* (line 4); *d*) *to be found* (line 5); *e*) *to change* (line 8).

6. State to what part of speech each of the following belongs: *a*) *too* (line 1); *b*) *less* (line 4); *c*) *no* (line 5); *d*) *other* (line 5); *e*) *every* (line 3).

7. *a*) Select two adjectives in the comparative degree. *b*) When should the superlative degree be used? Give an example.

8. Classify the following as transitive or intransitive, and give the tense of each: *a*) *can repeat* (line 1); *b*) *have been allowed* (line 4); *c*) *is* (line 5); *d*) *shall seek* (line 6).

9. Give the synopsis in the third person plural of the verb *forgive* in all the tenses of the indicative mode, active and passive voice.

10. Write a sentence containing a noun *a*) in the predicate (predicate nominative); *b*) used as an appositive.

ANSWERS.

1. *a*) *That there is a fact* modifies *repeat*, objective; *b*) *that the laws have been* modifies *assumption*, adjective; *c*) (*that the laws*) *have been allowed* modifies *assumption*, adjective.

2. *a*) *The*, article; *of development*, prepositional phrase; *known*, participle; *precise*, *definite*, adjectives. *b*) *Into higher ones*, prepositional phrase; *by theories*, prepositional phrase.

3. *a*) Nominative, subject of *is*. *b*) Objective, object of preposition *in* understood. *c*) Nominative subject of *did* (*seek*).

4. *That*, connects *repeat* and the clause of which *is* is the verb. *Or* connects *have been* and *have been allowed*. *And* connects the clauses of which *is* (line 5) and *shall seek* are the verbs.

5. *a*) Present infinitive, active modifier of *is*. *b*) Present infinitive modifier of *known*. *c*) Present infinitive, modifier of *have been allowed*. *d*) Present infinitive, passive modifier of *is* (line 5). *e*) Present infinitive modifier of *did* (seek).

6. *a*) Adverb. *b*) Adverb. *c*) Adverb. *d*) Pronoun. *e*) Adjective.

7. *a*) *Lower*, *higher*. *b*)To express the highest state: the laborer has money, but the financier has *most* money.

8. *a*) Transitive, present potential. *b*) Transitive, present perfect passive indicative. *c*) Intransitive, present indicative. *d*) Transitive, future indicative active.

9. Active: present, *They forgive;* past, *They forgave;* future, *They will forgive;* present perfect, *They have forgiven;* past perfect, *They had forgiven;* future perfect, *They will have forgiven.*

Passive: present, *They are forgiven;* past, *They were forgiven;* future, *They will be forgiven;* present perfect, *They have been forgiven;* past perfect, *They had been forgiven;* future, *They will have been forgiven.*

10. *a*) The daffodil is a yellow *flower.* *b*) Roosevelt, our *President,* is a good man.

CIVIL GOVERNMENT.

1. Name three things that chiefly distinguish a republic from a limited monarchy.

2. What are the constitutional limitations regarding an adjournment of either house of Congress?

3. *a*) How is the speaker of the house of representatives chosen?
b) What is a "call to the house"?

4. How is a vacancy in the representation of a congressional district filled?

5. How many judges comprise *a*) the court of appeals of the State of New York; *b*) the supreme court of the United States? *c*) Mention one duty of each court.

6. *a*) Give the title of each of four principal officers of the county. *b*) State two of the principal duties of each.

7. Where does the power reside *a*) to grant the rights of citizenship to foreigners; *b*) to limit the right of suffrage?

ANSWERS.

1. The head of the state is elected and can be deposed. The three functions of government are administered by separate branches. The executive is responsible to the people.

2. Neither house, without the consent of the other, shall adjourn for more than three days, nor to any other place than that in which the two houses are sitting.

3. *a*) By fellow members. *b*) When fifteen members cause absent members to be arrested and brought before the house by the sergeant-at-arms it is known as a "call to the house."

4. Governor issues writ of election to fill vacancies. Election same as a regular election.

5. *a*) Seven. .*b*) Nine. *c*) The court of appeals is the court of last resort except where the federal constitution is concerned. Supreme court deals with cases in which a State is a party.

6. a) Sheriff, preserves order and apprehends criminals; county clerk, has charge of public records, and draws the grand and petit jurors; county treasurer, is the custodian of county money, and issues licenses for the sale of intoxicants; superintendent of the poor, keeps the poorhouse and expends money for the support of the poor.

7. *a*) In the national government. *b*) In the States.

Massachusetts State Examinations.

PHYSIOLOGY.

Take any two of the four numbers. Time, one hour.

1. *Food and digestion.*

(*a*) Name the principal classes of foods and give examples of each.

(*b*) What should govern our choice of daily food in the kind and amount and in the distribution of meals?

(*c*) Starting with a mouthful of bread and butter, follow its passage through the digestive organs, telling where each of the kinds of food it contains is digested and by what means.

(*d*) Hygiene of digestion. State briefly the conditions which favor good digestion.

2. *The blood.* . . .

(*a*) Where found, of what composed and the general service it renders.

(*b*) Where and how the food enters the blood.

(*c*) The changes occurring as the blood passes thru the lungs. Which part of the blood takes up the oxygen?

(*d*) The cause of coagulation in blood and its uses.

(*e*) How can excessive bleeding from a wound be stopped, or at least checked?

3. *Contagious diseases.* . . . .

(*a*) The essential difference between a contagious and a non-contagious disease; give examples of each.

(*b*) Does anything actually pass from one person to another to produce contagion? If so, what?

(*c*) Some agents that may serve as a means of conveying diseases, *e. g.*, consumption, malaria, and scarlet fever.

(*d*) Suppose one of your pupils is taken in school with a contagious disease, what are the proper precautions to prevent or check contagion?

4. Discuss according to a plan of your own and from a physiological standpoint any one of the following topics:

The value of the school recess.
The hygiene of our clothing.
Ventilation in the school-room.
The eye and the sense of sight.

ANSWERS.

1. (*a*) Mineral, salt; animal, milk; vegetable, bread.

(*b*) Climate, habits of life, condition of body, age of person.

(*c*) Mouth, saliva softens food, changes starch to sugar; stomach, gastric juice changes proteids into peptone, which is absorbed into blood; liver, bile acts on fats; pancreas, pancreatic juice acts on starch, fat, and proteids; large intestine, intestinal juice removes all remaining useful food elements.

(*d*) Rest for stomach, regular habits of eating, slow eating, cheerful thoughts.

2. (*a*) Thruout the body. Plasma and white and red corpuscles. Carries food to parts of body and carries off impurities.

(*b*) Cells form the inner surface of the mucous membrane, the epithelium. These cells take up foods in liquid form, pass them on to lymph and so into blood capillaries. Sugar is absorbed in mouth. In stomach peptone is absorbed thru walls of the digestive tube into the blood. Most is absorbed in small intestine; here the villus projections absorb. Then the lymphatics carry fatty foods into circulation.

(*c*) As the blood passes thru the lungs it takes up as much oxygen as it can carry. The oxygenated blood is a bright red. The blood is purified in its passage thru the lungs The red corpuscles take up the oxygen.

(*d*) Due to formation of threads of fibrin from the plasma. The threads entangle and inclose the corpuscles, and the two constitute the clot. Stops flow and loss of blood from a wound.

(*e*) In case of an artery, by applying pressure between cut and heart. In case of vein, by applying pressure beyond the cut or holding the injured part up.

3. (*a*) A contagious disease is one which is transmitted from an individual thru the air or by direct contact, as scarlet fever. A non-contagious disease is one which is conveyed thru indirect means, or one derived from some place or thing, as tuberculosis.

(*b*) Yes. Disease germs.

(*c*) (a) Thru germs from dried sputum. (b) Mosquito. (c) Contact with cast-off particles of skin.

(*d*) Disinfection, quarantine, cultivate cheerfulness, cleanliness, plenty of sunshine, care in diet, keeping body in good tone.

4. Personal answer required.

PHYSICAL GEOGRAPHY.

Take any two of the three numbers. Time, one hour.

1. *Rainfall.*

(*a*) Causes.

(*b*) Factors conditioning distribution.

(*c*) Areas of greatest rainfall in the United States and causes.

(*d*) Areas of least rainfall in the United States.

2. *Winds.*

(*a*) Kinds of winds.

(*b*) Causes.

(*c*) Winds of the different sections of the North American continent.

(*d*) Effects of winds.

3. Tell how you would develop the structure of the continent of North America with a class of children ten to twelve years of age. Give plan, reasons for procedure, aids that you would employ, and aims of the study.

ANSWERS.

1. (*a*) Whatever causes a lowering of the temperature of the air causes rain. This may come from ascent of air into the higher regions of the atmosphere. The ascending currents are caused by the heating of the earth's surface, by colder, drier or heavier wind-currents gathering beneath them, and by ranges of mountains, by mixing of winds of different temperatures.

(*b*) Proximity to sea or mountains. Occurrence of winds which convey air to higher altitudes. Direction of winds.

(*c*) Florida and Mississippi Valley. The northwest wind disengages the moisture of winds from the Gulf of Mexico by getting below them and thrusting them into higher regions of the atmosphere.

(*d*) Valley of Colorado. On account of currents being robbed of moisture before reaching this section. The mountains also keep off moisture-bearing winds.

2. (*a*) Drying winds, trade winds, anti-trade winds, polar winds, westerly winds.

(b) Caused by difference in temperature of the air.

(*c*) Northeast trade winds, westerly winds, polar winds.

(d) The agent for the distribution of the atmospheric temperature and moisture. Warm and cool air; make deserts; destroy sand and rock; make storms; make ocean currents; determine rainfall; determine existence of fertile lands; scatter seeds; aid sailing vessels.

3. A personal answer required.

Educational theory is neither more nor less than educational insight, an analytic perception of the conditions and relations involved in a particular case, and, accordingly, the criterion of value of a course of professional training must always be the degree in which it enables the teacher to possess such clearer vision for the reconstruction of each new breakdown in experience.—Vice-Prin. Samuel B. Sinclair, Ottawa Normal school, in "The Possibility of a Science of Education," a new book recently issued by the University of Chicago Press.

The reading circles of Easton, Pa., have adopted EDUCATIONAL FOUNDATIONS as the basis of their professional study course. Supt. Wm W. Cottingham, always active in the interests of his schools, strongly believes in the objects of this magazine and commends the work to teachers. We extend our heartiest thanks to him as well as to Prin. J. H. Lindemann, who is an indefatigable worker at teachers' meetings.

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Contents for March, 1904

On Teaching to Think. Francis Anderson, M.A. - - - - - - - 477

SCHOOL ADMINISTRATION

The Supervisor and Teacher of "Special" Subjects. Chas. B. Gilbert - - - 486

HISTORY OF EDUCATION

Comenius and Thring. Arthur Gilman - 493

CHILD STUDY

Cruel Treatment of Deficient Pupils. John Dalziel - - - - - - - - 495
Cautions to Child Students - - - 498
Testing Eyes. William H. Huse - - - 499
Study of Eyesight in School - - 499, 537
Causes of Myopia - - - - - - 501
Mental Strain. William A. Hammond, M.D. 503

METHODOLOGY OF EDUCATION

Questions and Answers. John Adams - 504
Physical Training. Supt. W. H. Elson - 508
Care of the Woman Heart - - - 510
Childish Studies - - - - - - - 510
Works of Art and Illustrations as a Means of Education. Ernest Gardner 511
How Best to Study Nature. J. C. Medd 516

CLASSIC ANTIQUITY

Life in Ancient Greece. II. J. P. Mahaffy 520
REVIEW QUESTIONS 543
TEACHERS' EXAMINATIONS 545

CURRENT NOTES

Society of Educational Research - - 552
Text-Book Royalties of Teachers - - 552

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Educational Foundations

OSSIAN H. LANG, Editor.

Vol. XV., MARCH, 1904. No. 7.

On Teaching to Think.*

THINKING is power, without which mere facts of knowledge may be encumbrances, so much lumber that we carry about with us, without which, habits may be hindrances rather than helps to action. Thinking is a power which depends on the individual himself, which may be won but not bought, developed but not communicated. Strictly speaking, therefore, thinking cannot be taught, but can only be learned, and the utmost the teacher can do, is to make conditions as favorable as possible for the development and exercise of the thinking power.

But it is possible for the teacher to teach in such a way, to follow such methods and principles as to stunt or stifle the inward power of thinking. It is possible, as has been shown in the past, to frame a system of instruction (I shall not call it education), which will turn the mind into a machine, and free men into slaves. Teaching may discourage the growth and exercise of those inner qualities and interests, without which, thinking, power of self-expression, and self-activity, cannot originate or develop. The practical problem of politics is: How far can civic government help the individual without, in doing so, tempting him to cease from self-help, from the exercise of his own energy, forethought, and initiative? The practical problem of education is: How shall the teacher help the pupil to help himself? The end of civic government is not to suppress, but to foster and produce self-activity on the part of the citizens. The end of teaching is to produce self-active pupils.

We are concerned, however, with that particular kind of self-activity, which is named thought or thinking. And it may be said that it is no part of the teacher's task to anticipate what only later life can bring about. Action comes before reflection, and learning before thinking. We do not want old heads upon young shoulders. We do not want our classrooms to be filled with young politicians or philosophers. Of course we do not; but the objection when put in this way, seems to me to rest upon a misunderstanding of what thinking is, and of what education is. For thinking is not a power which we can afford to neglect until we have something very serious to think about. Nor is education a preparation for some problematic period of life, which we may never reach. Thinking is the appropriate use of the powers we have at present, on the appropriate objects of the present stage of life, and the proper education for any one stage is the one which best prepares for the stage which comes next in the natural order of development.

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The thinking processes are the same for the young and for the old, for the pupil and for the teacher. The difference lies in the objects which are thought about, in the nature of the interests which have been slowly formed, in the difficulty and degree of the thinking. Pasteur in the laboratory, and Darwin in the field, may follow exactly the same method which the child uses in dealing with his own little problems. The politician in Congress, and the pupil in the play-ground may show the same mental characteristics and adopt similar methods. We must not suppose that because we deal with deeper problems, when we come to manhood, or with more cunning adversaries, that the mind of the man and the mind of the boy work in altogether different ways. "When I was a child, I spake as a child, I felt as a child, I thought as a child; now that I have become a man, I have put away childish things." The difference is in the wider point of view, in the deeper power of insight, in the nature of the things which interest us, but not in the fact that the mind works by new machinery. The methods are the same, the machinery is the same, even the blunders and fallacies are the same, altho we give them longer names when we are old, and suffer more deeply from their consequences.

Now, education is, or ought to be, a continuous process. We do not want an old head upon young shoulders. But we want that the head should fit the shoulders, and, if possible, also that the shoulders should fit the head. Nature handicaps individuals in strange ways, and we cannot always circumvent her. Exceptional cases need exceptional treatment, but in all cases surely the rational principle is that the training for one stage should be determined by the needs of that stage, and by the nature of the stage which is to follow.

One common mistake is to treat thinking as memory is sometimes treated, as a peculiar and mysterious power, different from our other activities, to be trained apart, as it is supposed to exist apart. Both suppositions are false. It neither exists apart nor can it be trained apart. Another mistake is to restrict thinking to one of its kinds, to what is generally known as passive reflection. We may distinguish men of action from men of thought, but that distinction refers to a difference in the manner of life men lead, and not to the fact that one man thinks and the other does not.

Thinking is action, always action. All conscious life is activity, in so far as it involves reaction on what is presented. I react in various ways to my experience, and intelligence for good or evil is always involved in such reaction. The teacher and the parent do not hesitate to say to the child, "Why don't you think? Why didn't you think!" They know what they mean, and the child knows what they mean, and, if so, I may be allowed to take it for granted that you also know what is meant by that peculiar reaction on experience which is called thinking.

Words are symbols, and what they symbolize depends on the image which forms in the mind. But the image in its turn is a symbol, and so the word is the symbol of a symbol, the shadow of a shadow. It stands, so to speak, at the second remove from reality. It is good sound advice to warn against being fooled by words, but let us also take care that our images represent the real thing, and that we are not being fooled by images which merely strike the fancy or satisfy a silly desire, or pander to our prejudices. In one of Disraeli's novels a son complains to his father that at college he had been taught only words, when he wished to learn ideas. The father replied, and Disraeli was speaking thru him, "Few ideas are correct ones, and what are correct no one can ascertain; but with words we govern men."

Make sure that in every case, from the kindergarten upwards, the word has an image behind it, and that the image is the right image. It takes comparatively little time for you yourselves to do the thinking work, and then to drive the results into the pupils. But that is not teaching worthy of the name. In the mental and moral life there is no substitution of effort. You cannot be good for another, and you cannot think for another. But in much of our school work, and in much of our university work, too, for that matter, the teacher does the thinking, and the pupil is supposed to take it in. But he may do nothing of the sort. He may take in words to which he attaches no corresponding reality. He may learn to juggle with symbols but not to think. He may be able to describe on paper a day in the country, yet take little joy in the things of nature. He may be able to tell you the constituent elements of the atmosphere, to several decimal places, and yet have no conception of science or scientific method. He may have abundance of knowledge of a sort, but since it has not been bought with a price, at the cost of his own intelligent effort, he has little of the true knowledge which is power.

The knowledge which is power depends in the first place, at any rate, on the habit of forming clear images of what we are "driving at," of ends and objects in themselves and in their relations.

It may perhaps seem to some of you that the maxim I have suggested for your guidance, is not a very practical one. It is not, if by practical maxim is meant what, in racing slang, is called "a safe tip," enabling one to get other people's money without earning it. A safe tip in education would be a means of getting results without doing a corresponding amount of honest and intelligent work. What a thinking man wants is not a tip, but a rational principle of action. We are not concerned with the art of passing examinations, but with education, and education is a spiritual process, demanding the exercise of intelligence on the part of the teacher as well as on the part of the pupil.

It is comparatively easy to secure reproduction on the pupil's part. It is by no means easy to secure true production, and impossible unless the teacher plays his part in the production. Now the rule of method I have given you, that image, word and thing should be connected in the pupil's experience, if you want his thinking power to work properly, does demand a continuous exercise of intelligence and effort on the teacher's part. It makes a large call on his powers of suggestion, analysis, imagination and construction. It can be applied to the teaching of any subject, and for that and other reasons, is to be preferred to the more general maxim which appeals most to those who have had little or no practical experience in teaching. I refer to the maxim which is quoted in season and out of season, that teaching should proceed "from the concrete to the abstract." This may be excellent as a warning or a general piece of advice, but it is not a safe rule of method. For what we want to know is the process by which we get from the concrete to the abstract, and the maxim tells us nothing about that. It only says, begin with the concrete. But we cannot rest there, and the trouble begins as soon as we leave it.

Some teachers begin with the concrete, and leave it as they might leave the earth in a balloon. The pupils are up in the cloudy abstract, and the concrete is out of sight. They show the child an orange, and then are off at once to the "oblate spheriod," and the rest of what is often supposed to constitute the elements of geography. The equator is described as an imaginary line, running round the middle of the earth, and the pupil reproduces that interesting fact in this way—"The equator is an imaginary lion, running round the middle of the earth."

The truth is, that in teaching, as in life, we must always be passing from the concrete to the abstract, and back again. The mind, like an unceasing shuttle, passes to and fro in the intricate web of experience, and abstract and concrete are closely interwoven like warp and woof. Just when and how the concrete should be introduced in the course of instruction, will depend upon the nature of the subject, and let me add, upon the common sense of the teacher. To some teachers, the concrete is the useful; to others it is the merely tangible or picturesque. But you may make your school a museum or a workshop, or a lumber room of interesting and uninteresting objects, and yet fail to reach the minds of your pupils, for building up or for instruction.

The teacher should be a free man, and not the slave of any maxim, however admirable it may sound. That is why I suggest the rule of method I have mentioned, as a help to the intelligent application of the maxim, "from concrete to abstract."

Another maxim recommended in books as a rule of method, may be misleading, when applied without discrimination, in practice. We are told to "begin with the elements." These are assumed to be the simple beginnings, from the teacher's point of view. But the elements with which most text-books begin, are far from being simple. They are really the final results of a process of abstraction; they are the end rather than the beginning of knowledge. The chemical text-book takes elements before compounds. The teacher will reverse the order and take the compounds first. He will not begin with atoms and molecules, or even with oxygen or hydrogen, but with the air we breathe or the water we drink, or even with more compound substances than these. In geography, he will not begin with the poles, or the equator, or with the earth as an oblate spheroid, but with the broad general features of the district he lives in. In grammar, the teaching elements are not the parts of speech as defined in the books, but the functions of words and sentences in living speech. He will begin with sentence making and sentence breaking, and not with the senseless repetition of rules learned by rote. All recent reform in the teaching of mathematics, has followed on the reversal of the old method of beginning with the abstract elements, which are extremely difficult for the child mind to picture or understand. Points, lines and surfaces, as mathematically defined, are concepts. If you begin with these and not with the solid realities from which they are abstractions, and keep on in the same method of teaching geometry, the result will be that mental gymnastic which is so useful for examination purposes, and so useless for all else.

The old method of teaching nearly everything was to introduce the pupil at once to the formula, the symbol, the law, and the chances were that he rarely got beyond these, or came back from them to reality of which they were the beggarly elements. Here is another example of such stupefying methods of teaching. An inspector was trying to find out if a class knew anything about the earth's temperature at different places and depths. He asked: "Suppose we were to dig a hole in the earth, hundreds of feet deep, should we feel hotter or colder as we went down?" The class was dumb. The teacher whispered, "I am sure that they know, sir, but you don't put it in the right way. Will you let me ask them?" "Certainly, with pleasure," said the inspector. Turning to the class, the teacher said: "Children, what is the condition of the interior of the globe?" At once the reply came, the almost unanimous reply: "The condition of the interior of the globe is that of igneous fusion." Now is such teaching, in its method and result, profitable for instruction, building up, thinking? What shall it profit the boy tho he gain a wilderness of such facts, if his own mind remain empty and sterile? Is such teaching profitable for anything save to enable the pupil to reply in some futile form of sounds words, to some hypothetical question of an official examiner?

And so we are led back to our working rule of method, which I hope may not now seem so unpractical as it did at first—that word, image, and thing, expression and impression, be connected in the life and thinking of the pupil. If the adult would take the trouble to analyze his own mental processes a little, he would understand better the working of the child mind, and feel a little more sympathy with the needs of the child mind. We expect the child to do with ease what we ourselves do with difficulty. And if any attempt is made to make school work more interesting, to supply the child with the necessary material and means of exercising his thinking power, it is at once said: "Oh, thinking is thinking, and you must let the child find these things out for himself. You must not make learning too easy or agreeable. We had none of these helps when we were young." Well, perhaps those who talk thus were very exceptional persons when they were young, and lived thru, without much damage, the training from which so many other minds suffered. I prefer to take the evidence of a man like the late Professor Huxley. He said that he owed his success as a thinker and teacher and discoverer to the habit he had formed of always visualizing clearly, whatever he worked at, by diagram, map or picture.

But we do not really need such evidence. I ask you simply to refer to your own experience. Do you yourselves find that you think better, more accurately and clearly when no appeal is made to your perceptions or your imagination? Do you prefer a book of travels to be without pictures, or to read an account of a battle without a plan? Are you so very much disgusted with, say the *Daily Telegraph*, when it supplies such excellent plans and drawings to illustrate its facts and statistics? Or does not your mind cry out for these? You yourselves want to get behind the word to the image, in order by means of the image to think the right thing. But we are told that the child must have none of this help. We need not wonder that kindergarten training has to fight for its life against stupid misunderstanding, and that the ideal of education is still represented in the mind of many an adult, by the old definition of a schoolmaster, as a man with a text-book in one hand, and a cane in the other.

What the adult mind needs as means and material thought, the mind of the child needs not less, but more. The mind, no more than the body, will grow if it is starved. Concepts are not constructed out of nothing. They are built up out of percepts and images, and unless they are so built up, they are nothing but words, meaningless or misleading. Some teachers try to train the mind by starving it instead of feeding it. What happens in practice is either that the pupil fails to see any connection between what he learns and the world of reality in which he lives, or else he interprets what he is told or what he reads, by images drawn from the only experience he has, his own.

A school-boy was asked to describe a certain interview between Christ and the Pharisees. He wrote: "The Pharisees were a mean lot. Jesus asked them for money, and they brought him a penny. He took it in his hand, and looked at them and said, whose subscription is this?" How is the teacher to treat an answer like this? To laugh at it and make the class laugh at it, and pass on, is what no good teacher would do. A "bad answer" may sometimes reveal really good teaching. It may represent an honest attempt at thinking on the part of the pupil. What the teacher has to do is to make the boy find out the difference between superscription and subscription. If he has not a Roman penny to show, he can produce a British penny, and point to its image and superscription. What is a superstructure, super-scription? What was written above the Cross? Are writings on tombs or monuments or school prizes superscriptions, or should we call them inscriptions? Is the name on the outside of an envelope *super*- or *sub*-scribed? Is the signature inside, *super*- or *sub*-scribed? The class may be asked to make sentences illustrating the uses of the various terms, and if the pupils are not too young, reference might be made to older uses of the word, as in King Lear's address to the wind, the rain and the lightning—

> "I tax you not, you elements, with unkindness;
> I never gave you kingdom—called you children;
> You owe me no subscription."

Would all this be but useless waste of time? And do you prefer the simple and easy etymological method, superscription; *super*, above, *scribo*, I write, and then passing on, for time is short, and the inspector is at hand? The longest way round is sometimes the shortest way home, if you wish to train the thinking power. The pupils may be less ready to take for granted the meaning of the next long word they meet with in their lesson. They may acquire habits of accuracy, enquiry, testing, verifying. And when they grow up to be men, and listen to some politician dealing out phrases, they may ask the question, what exactly do they mean; they may find them out, and in the process, perhaps find the politician out, too.

In books on logic, we are told that thinking is abstraction. It is abstraction, but it is also much more. A rule is an abstraction in the sense that it is drawn from particular cases. A generalization is an abstraction from experience of a common element or a law. Until the pupil is able to hold these abstractions in his mind, as if they were things, until he is able to use them as a workman uses his tools, he has not arrived at the full stature of a reasonable creature. But the one thing needful in education is that the abstraction, rule, law, or generalization, be reached in the right way. If it is not reached in the right way we are constantly in danger of that besetting sin of bad thinking, the substitution of the abstraction for the reality.

We may begin in our thinking with the thing, or we may begin with the abstraction. The logic books again tell us that there are two kinds or types of reasoning, inductive and deductive. In deductive thinking, we start with the general principle, the rule, as known or admitted, and then proceed to apply it to particular cases. In inductive thinking, we reverse the process, and start at the other end. We begin with the particular cases themselves, and try to discover the connecting link between them, the law which binds them together. Which of these is the right method for the teacher to adopt in the process of instruction? I would answer, both; the teacher cannot afford to neglect either.

To trust the pupil to find out everything for himself, as the advocates of the heuristic method recommend, would lead to confusion of thought, and endless waste of time and energy. The teacher cannot stand aside like an "idle providence," waiting until the pupil blunders on the right solution. The heuristic method carried into practice, as some writers advise, would be like setting children to look for needles in haystacks. The deductive method, of supplying information, and if need be, solutions, in order to set the pupils on the right track, is absolutely necessary, if they are to learn anything at all. Life is too short for either the man or the boy to make his way by himself, unguided and unhelped, thru the mazes of experience. But everything depends on the way in which the help and guidance are given, and in practice, the teacher finds it necessary at almost every step, to work the inductive and the deductive methods together. The mistake most commonly made by teachers is to omit the inductive method almost entirely. They do not allow free play to the activities of the pupil. They do not try sufficiently to awaken the joy of interest, the delight in discovery, in doing, in originating, which is the true life of the boy.

The rule that has been worked for by the pupil himself, is a better understood, and, therefore, better remembered rule, than when it has been merely told and taken in. And the mind that has worked for the rule, is a stronger mind, simply because it has been exercised in the right way. It has been producing and not merely absorbing. By the other way the pupils are carried up hill; they do not walk up hill; and you know how much or how little good carriage exercise does for the muscles. It is recommended by physicians I believe as a means of cheating the appetite.

In ordinary school work, to begin with the rule, the symbol, the abstraction, is to begin at the wrong end. That is the end the inspector usually begins with, for under existing conditions that is all he has time to do. He has to take for granted that the rule has been learned in the right way, and what he wants to find out is whether the pupil can apply it. And the teacher is sorely tempted to content himself with driving in the rule, tempted to use the deductive method of instruction exclusively as a cheap and easy way of getting the desired results, to the neglect of those slower processes, which pay best in the long run, and without which our examination results may represent only a fraudulent balance-sheet.

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SCHOOL ADMINISTRATION.

The Supervisor and Teacher of "Special" Subjects.

THERE is one phase of supervision that presents difficulties so far unsolved. I know of no satisfactory literature upon the subject, which is doubtless due to the fact that the problem has nowhere, so far as I know, been satisfactorily adjusted. That problem is the problem of those who are assigned to what are known as special subjects in the capacity of supervisor or special teacher.

With the rapid expansion of the curriculum, many subjects have come into the schools which originally the regular class teachers were not able to teach properly, and some of which they doubtless connot now teach properly. At least, the custom has become quite general of putting instruction in manual training exercises of all sorts, drawing, music, and nature study, into the hands of specialists; that is, those who are supposed to have thoro acquaintance with these subjects, and who, theoretically at least, have received training on the art of teaching them. These specialists have come in by the side door, as it were. They are not class teachers; their authority is not clearly defined, and their work is not closely coördinated with the work of the schools, so that endless confusion has arisen in most school systems in these departments. In some cases serious friction has occurred between the specialists and the regular teachers.

Two radical remedies might be suggested: One to do away with the special teachers altogether and have the classroom teachers teach all the special subjects, and the other, to organize the schools on a departmental basis, having all teachers practically special teachers, who move about and teach different classes their subjects. The departmental system will be discussed fully in another place. It is sufficient here to say that it introduces evils greater than those it remedies, and its increase in some of the cities in the country is greatly to be regretted, and is sure in time to cause revolution and the return of the regular class teacher.

As to the first, it is doubtless true that if the classroom teachers are reasonably well prepared to teach the special subjects, it is vastly better to have them do it than to have special teachers come into the school-room, but it is also true that many teachers cannot teach some of the special subjects which a modern course of study demands. The number, however, who can teach all the subjects is steadily increasing, and the number of subjects that most of the teachers can teach is also increasing.

It is now seldom necessary to have special teachers teach either music or drawing. The Normal Schools and Teachers' Training Schools of all sorts supply such adequate training in these subjects that their graduates can usually teach them under expert and proper supervision reasonably well. It is true there are still many teachers who cannot teach one or both of them, but a wise distribution of the teachers will enable the few special cases to be cared for.

It is to be remembered that since these subjects were introduced a steady course of training has gone on not merely in the special schools, but in teachers' meetings and classes conducted by supervisors and specially trained teachers in all or nearly all of our school systems. There are still, however, some subjects which are coming more and more into the classroom that the average teacher cannot teach well. Perhaps the most conspicuous of these just now is manual training in its various forms. Nature study is in a transitional state; more teachers can do well with it than formerly, but there are still many who feel very weak and whose instruction is not highly edifying. Nature study, however, is one of the special subjects that more than any other should be taught by the regular class teacher and carefully coördinated with the other subjects, but a discussion of this subject belongs under the general head of departmental work.

In none of the special subjects—not even music or drawing, is it possible to get along without expert supervision; that is, teachers are not as well grounded in music and drawing as they are in arithmetic and grammar or other subjects of the curriculum, nor are the general supervisory officers as competent to give supervision, so that we must confess that for a long time to come there will be of necessity subjects that may be called "special" in our course of study, requiring teachers who must also be called "special," to do some or all of the work upon them. And it is quite likely that for an indefinite time it will be necessary to have at least expert supervision in these as well as special subjects, so that neither of the plans suggested can be counted upon to solve the difficulty of the specialist. He cannot be obliterated; he must be coördinated with the system.

The present arrangement prevailing in most places is wretchedly unfortunate. These specialists are viewed with distrust, and often with dislike, by the regular teacher. They upset programs and disturb the order of the school, and often greatly add to the disciplinary troubles of the teacher. Sometimes,too, they greatly embarrass the situation—if they are good teachers of their special subjects—by leaving the class teacher, who must be constantly with the children, in a very unfavorable light. These difficulties are not universal. In a few cases wise supervision and common sense on the part of the special teacher, or supervisor, has partially solved them.

First, the special teacher: By that I mean the teacher who goes regularly to the class-rooms and gives the instruction to the pupils in some one or more subjects. This problem is really much simpler than that of the supervisor. His business is to go and teach, and not to supervise, not to direct the regular teacher. If the instruction is given in the regular classroom with the pupils all present, the teacher should also be present in order to aid the special teacher, particularly in dealing with individual pupils, and if necessary, in keeping order, and also that she may learn as much as possible of the subject herself, for the ideal to be looked forward to by all is the teaching of these subjects by the classroom teachers.

The special teacher needs simply ordinary tact and common sense. Assumption of superiority to the classroom teacher and all indifference to the other work should be absolutely ruled out. The special teacher should seek to help the class teacher in coördinating all phases of the work; should study the possibilities of correlation, and should in every way try to be helpful to the class teacher and the children, tho not in any sense officious. I know some special teachers who are always welcomed, both by the class teacher and by the children, and I know some who are not, and it is simply a question of tact and personality.

Second, the supervisor: This problem is very different indeed, because the supervisor of special subjects is a supervisory officer and usually with undefined power. He is not a superintendent and he is not a general supervisor. He is responsible to the superintendent for the instruction in his subject as it is carried on in the schools, but the question whether he is superior to the principal is a mooted one and always rising.

Is he to give his instruction to the teachers directly, disregarding the principal? If so, how can the principal be held responsible for the conduct of his school? Is he to give his instruction to the principal and let the principal give it to his teachers? If so, if it is a technical subject, how can he be sure that it is correctly given to the teachers? If he gives the orders to the teachers, how can he be sure that he is not violating some order that has already been given by the principal? If the principal is the responsible head of the school, is the supervisor responsible to him for the instruction in his department in the school, or to some one outside of the school? And if to some one outside, how is the principal the responsible head of the school? What is the teacher to do after receiving contradictory or inharmonious orders from the supervisor and the principal? Is it to be understood in all cases that the instruction of the supervisor is the instruction of the superintendent? If so, can any subordinate official dispute it? If not, how can the superintendent take it up? Is the supervisor to serve as a "buffer" between the superintendent and the public so that if the work is complained of in any department, particularly if fads are denounced, he can hide himself behind the skirts of the supervisor?

Now these are some of the very practical questions which every one connected with a school system that has special teachers and supervisors will recognize, and I beg these same good people not to think that I am rash enough to suppose that I can answer them in an article. I shall try to make a few suggestions which will help the superintendents themselves towards a solution. Of course an easy answer, and a pretty reliable one after all, is that common sense will solve the difficulty in each specific case, but people haven't all common sense, and a certain amount of organization is made necessary by this very lack.

A supervisor's instruction in a special subject should always be recognized as representing the superintendent of schools. If this is done it will greatly simplify the problem, but that this may be done some conditions need to be met.

First, the superintendent must keep in the very closest touch with the supervisors. He must know what the supervisor's plans are; what sort of instruction he is giving to the teachers, and the supervisor should understand that no instructions involving changes in plan or important considerations of policy should be given by him without first having received the approval of the superintendent. If it is understood by the teaching corps, the principal included, that every supervisor on visiting the school is an authoritatively recognized representative of the superintendent, the attitude of the teachers and principal toward the supervisor is easily determined. But if the supervisor is giving instruction about which the superintendent does not know; is hoeing his own row independently of the rest of the force, constant confusion will arise and the superintendent will be called upon to support that about which he does not know, or will be compelled to withdraw his support, which is disastrous to the supervisor.

Not only must the supervisor be in close and sympathetic touch with the superintendent so that he can positively and with confidence represent him, but he must also recognize the positition of the principal in the school. The supervisor, or superintendent for that matter, who comes ruthlessly into the school and gives general or specific instructions to teachers without the knowledge or approval of the school principal, is sowing the seeds of dissension and dissatisfaction.

It should be the business of the supervisor, as of the superintendent, when visiting a school to talk very plainly with the principal about the situation, and if any new instruction of consequence is to be given, any new policy outlined, it should be made plain to the principal, and if possible, the principal's hearty and willing coöperation be secured. If this attitude is taken, and the supervisor recognizes the principal as the head of his school and gives his orders, if he gives orders, or advice if he gives advice, first to the principal and then to the teachers in so far as necessary, the principal can be held responsible for the work, and also for his attitude toward the supervisor.

Naturally, much instruction of a technical and detailed sort must be given by the supervisor in visiting school-rooms, which does not need to be filtered thru the principal, but such instruction should be fully in harmony with general principles already laid down,—either by the supervisor in conference with the principal, or by the supervisor or superintendent, in a meeting, or by syllabus. Much time can be saved by making the proper use of the various meetings of the supervisory officers with the teachers. One serious difficulty in this connection often is the unwillingness of the principals themselves to put themselves into the proper attitude toward special work.

Principals should be invited and urged to attend meetings in which important instruction is given to the teachers, and should in so far as possible avail themselves of the opportunity. In this way they are more likely to be in touch with the work and to be able to direct it intelligently in their own schools. Principals rely too much upon the reports which teachers bring them of meetings held with the various members of the supervisory force. It is difficult to be a good reporter, and very few people achieve it. It has seemed to me at times that it was almost impossible for teachers to report accurately a meeting in which instruction was given,—I suppose because feeling was more or less involved, and so principals should attend these meetings themselves and get the same instructions that the teachers do, and then they can understand the special instruction given by the supervisor when visiting the school.

The principal is necessarily, as we have said, the responsible head of the school, and should be so recognized by all the supervisory officers, and yet the principal should be responsible for something definite. The general policy of the school system, the course of study and the broader phases of method are of necessity laid down by the supervising force, and it is the business of the principal to master these, and to endeavor to make his school as good as possible along these specific lines.

While it is the duty of the supervising force in every way to strengthen the hands of the principal and increase his consequence, it is equally important for the principal to see that he does not try to set up a little machine of his own, but that he works in harmony with the entire adminstrative force in bringing about results such as are approved in general.

If the principal of a school finds that the supervisor is giving instruction in his particular subject which does not seem to be in harmony with the general policy of the school adminstration, or with instruction received from the superintendent or supervisors at meetings, he should frankly discuss these questions with the supervisor first, and if unable to secure what appears to him harmony, he should take the matter to the superintendent, whose business it is to see that harmony prevails thruout the system.

If the supervisor finds that the principal is not carrying out instructions given, provided these instructions are such as the superintendent himself approves, but is working against the supervisor or against the system, giving instructions to teachers contrary to the general policy of the school administration, thereby creating discomfort, unrest, and dissension, it is the duty of the superintendent to come to the rescue, and either by diplomatic or forceful measures bring about harmony, or by radical measures of discipline do away with the troubles. Of course the children are the ultimate sufferers for a lack of harmony in the administrative system, and next to the children the teachers are the sufferers if the supervisor and principal, and the other various " bosses," do not work together and do not recognize the teacher as an important factor herself.

Now what is the teacher to do to whom the principal gives one kind of instruction and to whom the supervisor gives another? That would depend much upon the relations that existed between the teacher and the various supervisory officers. It requires much tact, but if the relations are at all as they should be, the first duty of such a teacher is to talk plainly with the principal and to point out the discrepancies in instruction, and if the principal insists that he is right and that his instruction must be followed regardless of what the supervisor says—as sometimes happens, upon the next visit of the supervisor, if the work is not done according to his instructions the teacher should frankly tell the supervisor that she is acting under instructions from the principal, but this state of things should never occur.

If the principal takes this stand he should not take it with the teacher, which is cowardly, but should take it with the supervisor or superintendent and have it out. If the teacher finds the friction to continue, her only method of self-protection would be to go to the superintendent himself and tell her troubles, and the superintendent should have such sympathetic relations with the teachers that this could be done in entire confidence without danger to the teacher of falling from grace either with the principal or the supervisor, and if the superintendent is a wise, tactful, and strong head of the system, he can, either by tact or force, straighten out the difficulty.

These difficulties of which I have spoken arise chiefly because the supervisor of instruction in the special subjects has not been properly coördinated with the system. His place is not made plain either to himself or to the principals, and the first duty of the superintendent should be to make absolutely plain to the supervisors, to the principals, and to the teachers, just what the office of the supervisor is, just what his authority is, just what he is expected to do, and just what the attitude of the other partners in the school system toward the supervisor should be. This should be made so plain that nobody can misunderstand.

Of course in dealing with human nature difficulties [illegible] i arise. Jealousies, personal dislike on the part of teachers, undue assumption of authority and superiority on the part of unwise supervisors, and all the other miserable catalog of human frailties which teachers have in common with the rest of the children of Adam, make trouble, but if there is a perfectly clear and frankly stated relationship, or system of relationships; if the work and degree of authority of every supervisor and teacher is stated in unmistakable terms, then the problem is vastly simplified, and the only difficulties are those of which I have spoken, and which may be expected to continue as long as human nature is still unregenerate.

C. B. GILBERT.

New York.

It may safely be taken for granted that the average teacher is desirous of doing her level best for the children committed to her. Consequently whatever there is found to be amiss in the schools may well be charged against the supervisory powers.

HISTORY OF EDUCATION

Comenius and Thring.

JOHAN AMOS KOMINSKY, commonly known as Comenius, published his “Great Didactic” at about the time that the Pilgrims landed at Plymouth, and his fame stood so high that he was offered the position of president of Harvard college after Mr. Dunster was put out of that office,—at least, so Cotton Mather relates. This makes him seem of the past, but Professor Laurie assigns “to him a high, if not the highest place, among *modern* educational writers,” and calls him “the true founder of the modern method,” anticipating Pestalozzi, and all of the same school. Comenius believes that the growth of external things had a close analogy to the growth of the mind, and his constant cry was, “Study nature!” This cry runs thru his entire work.

Does the modern teacher tell us to use object lessons? So does Comenius. Does the laboratory method claim our approval? Comenius was before us, for he says that physics, for instance, should be taught by “ocular demonstration and by experiment.” Do the “topics of the time” seem appropriate? Comenius says that one should begin the study of history by “collecting and reporting what has recently happened, or how this or that person has carried out this or that matter.” Comenius would have pupils taught after the bent of their several minds, for there is a great difference in minds, he says, and, “if we attempt to counteract a natural disinclination, we are fighting against nature, and such effort is useless.”

“Comenius thought that “even women might become lettered,” and he said that “no sufficient reason could be given why they should be altogether excluded from the pursuit of knowledge,” formed, as they are, “in the image of God,” and having “a share in his grace.” He believed in popular education, that “not the children of the rich and powerful alone, but of all alike, boys and girls, both noble and ignoble, rich and poor, in all cities and towns, villages and hamlets, should be sent to school.” Could anything be more modern?

Of all the educational masters of the last century Edward Thring, headmaster of the ancient Uppingham school, seems foremost. His little “Theory and Practice of Teaching” contains more wisdom than many a pretentious volume. He is a worthy follower of Comenius, and there is no one whose life and work and writing more fully reward the teacher of the present day who studies them. Let us read a few random utterances from his little book. "There is a great cry for new subjects, but no voice raised for new teaching." "The general carpenters of the universe are up and doing at once, eager for a job; all the clever ignorance of amateurs is in flood." "The most important elementary truths have not been brought forward at all. No one has asked the simple question, what it costs to teach anything properly to *each boy in a class*. No one has examined whether it is *possible*, under existing conditions, to teach each boy." "Knowledge is power, say some; get knowledge, give knowledge, and millennium begins." "Is education making the mind full, or is it making the mind strong? Is teaching the putting in facts, or drawing out and practicing latent powers?" "Does the carting into the mind a few bushels of facts, to be peddled out again, make the owner more of a man, or anything better than an animated knowledge shop?" "Everyone can supply examples where there was much knowledge, but no education. When this is the case, *knowledge is not power*, and the common axiom is seen to be a fallacy." "The learner does not want to be made a receptacle of other men's words and thoughts, but to be made a thinker of thoughts and a wielder of words himself. . . . A shop full of ready-made furniture, on the one side, and the skilled workman, with his tools and his skill, on the other, do most accurately express the distinction between the walking knowledge-shop and the thinker with power in himself." "All the great men that have lived have acquired greatness in the same way. They observed, they worked, they loved." These are a few of Thring's thoughts. Above all, stands that great one, "*Knowledge is not power*," a thought that he reiterates continually.

Cambridge, Mass. ARTHUR GILMAN.

The habit of thinking and saying the things that nourish the hungering spirits of others is capable of developing a Francis of Assisi, a Florence Nightingale, a Maud Ballington Booth. Habitual yielding to a cowardly use of the poisonous darts of the arch-foe of humanity is bound to produce fiends. The wages of kindliness are a character of sweetness and light. And the reward of the sarcastic? At best a reputation for being clever, for smartness, perhaps even for brilliancy, with a diminishing group of unstung admirers applauding each well-aimed thrust. Would these plaudits be the comfort you or I should want to go to sleep on, when our day of life comes to a close?

CHILD STUDY.

Cruel Treatment of Deficient Pupils.

SOME RESULTS OF THE NEGLECT OF CHILD STUDY.

MANY instances of apparent stubbornness on the part of children have come under my notice, which upon a thoro investigation have been found to arise from some defect in the organs of sight or hearing, such as astigmatism, or a deformity in the ear.

The head of a child may appear normal to many persons, indicating, in some cases, more than ordinary intelligence, while there exists a condition rendering it impossible for the child to understand a proposition, even when expressed in simple terms.

The appearance of the eyeball is not an indication of the power of seeing, in any individual, a fact attested to by oculists, and understood by many educators. There is still a great deal of ignorance of the laws governing mind development, which should be known to every person entrusted with child cultivation. This is manifested from the treatment of children by both parents and teachers.

One of the most painful instances of the belief in the innate badness of some children came under my notice some years ago in the city of Philadelphia. The mother's statement in this case was "that ever since he was a baby he had given her a great deal of trouble from a habit of knocking things over." As his eyes were perfect, and he could see the objects and play with them, his parents did not suspect there was any defect in his sight, and consequently he was punished for what appeared to be wilful mischief, and that which seemed still worse, trying to lie himself out of the punishment by saying he did not see the things there. This determined persistence in lying was the cause of all his afflictions; it was, however, accompanied by an aggravating habit of making grimaces at the person questioning him, a sure sign of natural depravity. As is frequently the case with children when they know they are being punished wrongfully, this boy resented the ill-treatment by stoic endurance while under the rod, thereby gaining the additional stigma of being vicious and incorrigible.

With such a character, gained at home, he was taken to an asylum for feeble-minded infants for the purpose of being disciplined.

At first, in the new surroundings he brightened up, but it was not long before the teacher had full evidence of his obstinacy. The importance of beginning right was fully understood, and the teacher taking an object in her hand and holding it before the boy's face, asked him, while he was to all appearances looking directly at it, "What is the name of the object in my hand?" The child twisted his face up and with a grimace asked, "What object?" Here was confirmation of the bad character he brought with him. His head was held to face the object and a correct answer demanded; then followed the usual answer, "I cannot see anything;" for such obstinacy and prevarication there was but one remedy.

The child was desirous of pleasing his teacher and watched her closely so that he could occasionally name the object held up; this, however, only made his conduct at other times less tolerable. As a crucial test the teacher would hold a pin before the boy's face, and upon his statement that he could not see anything the point would be brought in contact with his nose, producing a cry and the statement that "it is a pin;" severe punishment followed this experiment.

Fortunately for the child he became sick. An oculist after examining him stated that there was a defect in his sight, but the exact nature of it was not easily determined.

After this the child was treated less severely, but all his endeavors to prove himself truthful were futile, and the poor little fellow pined away slowly and died, without any adequate cause in the shape of physical disease.

At the request of the oculist, the boy's brain was given to him for examination, he found that the nerves of sight were disconnected; which would render it impossible for the child to see any object in front of his face, but that he could see all objects on either side of him; and only by twisting his head and shutting an eye would he be able to see things in front of him.

The remorse felt by his former teachers can be readily understood, but what a picture it is! Who can appreciate the acute mental suffering of the infant when punished by its mother for untruths it did not tell, think of the effect upon the mind of a child deprived of food, kept in confinement, and flogged for failing to comply with requirements it had no means of comprehending.

We are apt to think that children do not know what mental agony is, but we can, if we will, call to mind the times when we could not weep, and yet we suffered a torturing pain in our throat, and a distress of mind, which would be unendurable now if we were subjected to the same insults which produced the condition in earlier years.

While on this subject I will mention a case which has been of great value to me in the study of psychology. At nine years of age I was placed at a boarding school: it was the good old times then, Solomon's advice was diligently heeded. One of the pupils, a boy of the dull order, and as is not unfrequently the case, strong and stout, offering a good broad back as a temptation to the irate teacher, and having the misfortune of being named Birchenough, was subjected to harsh treatment by the assistant teacher. Birchy, as we called him, was kind-hearted and he often told me his plans for pleasing the teacher and escaping, if possible, his daily thrashing. I knew the boy was good in his intentions, and he spoke only the truth, when he said, "When I do my best to oblige him and be perfect in my recitations he gets most angry with me." This was actually the case. I have seen the teacher flog him unmercifully without any cause that the boys could observe; and every blow stung my brain as if it had been struck. Poor Birchy lost heart and tried to commit suicide by hanging himself; he was found in time to save his life and, as punishment, he was kept in solitary confinement for several days and fed upon bread and water. The first day he returned to the school-room the teacher became angry at him for misspelling a word, and commenced to flog him. I jumped up and denounced him as a coward and said I would go and tell the principal. I did so, and the teacher, Charlie Walker, was discharged, to the great relief of sixty boys. The principal was a good man and did not know how the teacher terrorized the boys in his absence.

Flogging the body is no longer the practice, but is it any better to use a bright pupil, with no higher qualification than a fine memory, as a goad to urge on other pupils to efforts, for which their mental make-up, at the time, utterly unfits them? The teacher sees nothing of the mental strain, or heartache from the disappointment caused by failure to reach the desired standard, and unfortunately, few parents comprehend the condition of affairs either. The pupils most injured are those whose minds and spirits are of the finest quality and who hide their suffering. When they fail in health and the doctor is consulted, they listen to his advice and take his prescriptions, or do as I did, pour the medicine out of the window at the times ordered to "shake the bottle before taking," and go on with their studies until they collapse.

The old-fashioned flogging, done in moderation, was a squaring of accounts which did less injury to a smaller number. If we are to obtain the best results from our arduous endeavors to improve the pupil, and the status of the teacher, it must be done by taking higher ground with the pupil. It is far better to fail in an occasional case of low moral conception on the part of a pupil, whom we can treat separately if needs be, than to assume the attitude towards a class, that says they are not to be trusted unless they are watched. The power to suffer begins at birth, the desire to please follows very quickly after, and if these two faculties are rightly understood and nurtured they give the foundation to build the noblest characters upon.

Plainfield, N. J. JOHN DALZIEL.

Cautions to Child Students.

THE gravest danger of the present widespread interest in "scientific" child-study is that teachers are apt to regard the school as a laboratory for enriching their knowledge of children and of child nature, instead of attending to the enrichment of the minds of their pupils. It is all very well to say that the child cannot be well taught until his mental, moral, and physical make-up is well understood. But this trying to get better acquainted must not consume too much time. Firstly, it ought to be presupposed that a person who is appointed as teacher is already acquainted with the characteristics of child-nature in a general way and is capable of readily diagnosing individualities of children, just as a licensed physician is supposed to be able to give a diagnosis of the physical constitution. Secondly, every teacher ought to have a plan of incidentally gathering the additional observations necessary to form a correct judgment of the peculiarities noticeable in some pupils. After school hours these incidentally collected data may be entered in a special book kept for purposes of gradually obtaining a record of the educational progress and peculiar needs of the various pupils.

Child-study must not be made an end in itself, so far as the teacher is concerned. It is only one means of learning how to best educate a child. How can I best promote the educational growth of the children? This is *the* question. The scientists who wish to work out a new psychology of childhood—commendable as their object may be—must not be permitted to substitute their object for that for which the schools are founded and maintained—the *education* of the young.

Testing Eyes.

SOME years since I made a test of the eyesight of my pupils. The result would have been surprising, if I had not previously read of similar tests. Quite a number with very defective sight were advised to consult an oculist, and several did so. My second test was of even greater value than the first, as it showed if any change had taken place in the vision of those tested last year.

This time I found that sixty-five per cent. had good eyesight. This includes all from fair to perfect. Thirty-five per cent. had poor vision. Fifty-five per cent. had substantially the same degree of vision as last year, nineteen had poorer sight, while twenty-six per cent. had better. These are the bare figures. The benefits resulting from such annual tests cannot be adequately stated by them.

One boy, an orphan, was found with poor vision. He had been wearing glasses and doctoring his eyes by order of an oculist, but had stopped doing both some time before. He was urgently advised to attend to his eyes at once. He did so, and can now see normally without spectacles. Another boy was found with exceedingly poor sight. Neither he nor his parents were aware of it. The oculist who fitted him told him it would be necessary to wear glasses only thru his school life. To-day with the glasses his vision is normal; without them it is much better than last year. These are doubtless exceptional cases, but all who were properly fitted with spectacles can do better work than formerly and are preventing more serious trouble. The tests have become a part of my regular school work. Wm. H. Huse.

Manchester, N. H.

Study of Eyesight in School.

Dr. E. W. Scripture, until recently professor of experimental psychology at Yale university, after making a careful study of bad eye diseases, asserts that a large proportion of these diseases are contracted in the school-room. He declares that the number of cases of short-sightedness, in which the trouble existed from birth or appeared during the first year or two of life, is so small that we can say, almost all short-sighted eyes are acquired.

"How are these eyes produced? The answer is brief and concise: by work held too close to the eyes during the early years of life, when the eyes are soft. The effort to accommodate the eye to see near objects puts a strain on it to which it gradually yields; it actually becomes longer (the cases of lens-deformation are less numerous than those of axis-lengthening). By what right is the school accused of producing these bad eyes? This question has been carefully investigated in Germany. With a few exceptions children enter school with good eyes. In the primary grades the per cent. of bad eyes is about one or two per cent., but the amount increases gradually from year to year until in the colleges, and about from forty to sixty per cent. of the students have eye defects.

"American investigations have not been extensive, but the results are similar. At Yale about 60 per cent. to 65 per cent. of the students undergo a physical examination; of these over 30 per cent. are short-sighted. On the whole, the evil, tho still very great, is considerably less than in Germany. Professor Mosso attributes the smaller number of short-sighted eyes in English schools and colleges to the large amount of outdoor sports. American school children, also, are not generally overburdened, and as for college students there is surely enough of athletics. It is in the benighted lands where football is unknown that the most short-sightedness is found.

"There are several processes of bad eye making, all of them carried on in our schools. One of these, and the principal one, is a process which consists in forcing children to do work too close to the eyes. Work of any kind should never be held nearer than fourteen inches from the eye even in the case of adults; young children should never be obliged to look at objects at even that distance for any length of time. The way the school authorities force the children to violate this rule is by requiring them to do work which involves objects of such small size that they cannot see properly without bringing the objects close to the eyes. Here is the accusation; can we justify it? The second Froebelian occupation is sewing with worsteds. It is the same thing as in perforating—only worse. There the child had a real dot at which to aim his needle; here he has often only an imaginary one.

"Probably the most dangerous occupation given to children is that of making chains of straws and paper circles. The child is required to run a needle thru a short piece of straw, then thru a small circle of paper, then another straw, etc. Fairly bad is the stringing of wooden beads. In fact it was while watching my own little girl in her efforts to string these beads that it first occurred to me that the kindergarten methods might not be absolutely perfect. And now for the schools. Careful investigations in Germany have led to a statement of certain minimum requirements for the type used in school books in order that the child shall be able to read at a proper distance. If these requirements are not satisfied there is great danger for the eyes.

"The remedy is a simple one. Let the educational boards of each town establish some such minimum requirements for school books. I have found such a small proportion of permissible books that to avoid the necessity of teaching without books it would perhaps be necessary to appoint a date six months ahead for the time of going into effect.

"What has been said will justify, I think, without further discussion, the following rules:

"1. All fine work such as perforating, sewing, bead stringing, weaving, drawing on cross-ruled paper, etc., shall be forbidden in the kindergarten. 2. Regular school work with books shall not begin till the completion of the seventh year of age. 3. Instruction in writing shall not take place before the tenth year of age. 4. As far as possible, chart and blackboard instruction shall be substituted for book and desk work in the lower classes. 5. Slate work shall be prohibited. 6. Books containing italics or script letters shall not be used in the lower classes. 7. No book shall be used whose smallest type does not satisfy the requirements previously mentioned. 8. Each child shall be tested for short-sightedness twice a year. Parents shall be notified in every case found."

Causes of Myopia.

Some of the causes of nearsightedness in school children are given by Prof. Webster L. Fox, a former government expert on the eye, as follows:

"Our children are kept at continuous work too long at one sitting; note the results, eye exhaustion and mental fatigue before the child is ready to begin his more important studies. Too long hours at study are demanded to memorize lessons which are, as a rule, beyond the comprehension of the little ones, and something must give way. If the eyes do not break down the health will. If the eyes give way near-sightedness develops, caused by overstraining and abuse of them during school hours. Then comes the Frankenstein—terrible as it is to the fond parent, but the only relief—wearing spectacles. The child must wear glasses so that he may continue not only to see with more ease the objects near him, but also distant objects. There is no reason why the little, circular, focusing muscle of the eye which aids in making one see objects clearly, may not become fagged out just as the larger muscles elsewhere do. Place a heavy weight on your shoulders, bear the weight all day long, and a very tired condition of the supporting muscles of the body naturally follows. It does not require much elaborate thinking to conceive what results must follow upon the prolonged abnormal use of the eyes. This focusing muscle is potent enough to disturb the whole physical act of seeing, and by indirect action also be a factor in producing headaches.

"My attention has been repeatedly called to the cross-lights in a school-room. The light falling directly into the eyes further contracts the pupils, which are already contracted by the action of the muscle accommodation in its effort to give a clearer picture to the brain. This has a tendency to elongate the eyeball, and as a permanent result we have near-sightedness. Where the eyeball has an unnatural shortness this same action manifests itself by headaches, chorea, nausea, dyspepsia, and ultimately a premature breaking down of the health. The first symptom of failing sight is a hyper-secretion of tears, burning of the eyelids, loss of eyelashes, and congestion of either the eyelids or the eyeball proper.

"The other extreme, far-sightedness or hyeropia, is the natural condition of the human eye. Savages are far-sighted. Humboldt speaks of the exceedingly acute vision of the Indians of South America. My own examination among Indians of our own country confirms this. Professor Jaeger, of Vienna, examined the eyes of many new-born children and found, with very few exceptions, all far-sighted.

"As long as an individual has an out-door occupation this sort of vision causes very little disturbance in the life work of the individual. But when such a person has an indoor occupation, then do many troubles arise. Among the first to show themselves are headaches, pain in or about the eyes, a tired and languid feeling. These symptoms are so well recognized by the alert family physician, that the professional aid of an ophthalmic surgeon is soon invoked for adjustment of the proper glasses which relieve the abnormal strains."

Professor Rein states Herbart's six "interests" as follows:

"Every school whose purpose is education will so shape its efforts that, for the pupil, the sinking of self in religious ideals may become a necessity; communion with nature, a spring of the purest joy; the companionship of great and historical personages, an inspiration; the yielding to everything beautiful and noble, a source of refreshment and uplifting; the search for and pressure toward clearness and exact truth, a matter of the heart."

Mental Strain.

AS one mode by which a reform in our systems of educating the young can be brought about, let there be more schools for children of a larger growth. I am satisfied, from observation, that the public night-schools of New York do more good, according to their opportunities, than do those that, thru the day, from nine to three o'clock are crowded with young children tiring their poor little brains over subjects that do not interest them, for they do not appreciate their value. A child ought to see some tangible result of his efforts to acquire knowledge, and this he can only do when he is taught facts that he understands and recognizes to be facts. In this kind of instruction the mental strain is reduced to a minimum, while the mental development is carried on in accordance with nature's laws. At the first sign of fatigue the instruction should cease.

As our schools are at present conducted, all the pupils are made to conform to one uniform standard of cast-iron rigidity. Weariness counts for nothing with the feeble, so long as the robust are not tired. The exhausted child cannot, like the exhausted adult, stop of his own volition. He must go on. The jaded nervous system cries out in vain, his face may look as haggard as it can, yawn follows yawn, his head may droop, his eyes may close in the drowsiness of his languor, but the goad is applied, and he must rouse himself, for another lesson is to be recited.

Is it strange that headache, and nervous prostration, and insomnia, and St. Vitus's dance, and epilepsy, and utter extinction of mind should frequently result from this forcing process? — William A. Hammond, M. D.

What the light and warmth of the sun are to the flowers of the gardens and the fields, the sympathy and encouragement beaming from the teacher's eyes are to the human plants in that child garden which we call the primary school. Child garden—it was the genius of Froebel that persuaded the world to incorporate the significant word in its dictionary. As long as a child is in need of kindly care he must be kept from exposure to the storms of anger and the scorching heat of sarcasm. This means that his teachers must learn to subdue the selfishness of their own natures with all the passions and unloveliness of them. It means further that on no account should a teacher of little children so far forget herself as to let one bitter word pass her lips.

METHODOLOGY OF EDUCATION.

Questions and Answers.

THE difference between a question and an ordinary sentence is that the question demands an answer. In ordinary speech we expect that every statement we make will have some effect upon the person to whom we make it, but when we use the question form we wish the person to show by his reply how his mind is acting upon the subject in hand. Sometimes a question is used as a very strong way of making an assertion, and then it is called a rhetorical question. Such questions do not require an answer in words: it is assumed that only one answer can be given. When a preacher asks, "Who can sound the depths of Omnipotence?" the obvious answer is, "No one"; but the preacher would be greatly surprised if one of his congregation made this reply.

Books on teaching usually condemn all questions that can be answered by "yes" or "no." The objection is that, since there are only two answers possible, the pupil has an even chance of being right if he merely guesses. This criticism is applicable to certain kinds of questions; but it is often desirable to carry the class with you by getting them to assent to your views, even when you know quite well that you are not testing your pupils.

We must not be enslaved by rules. We must consider the purpose of a question before we decide whether it is good or bad. In a Socratic lesson we may find a great many questions involving the answer "yes" or "no," which are quite legitimate, and carry on the teaching in a perfectly satisfactory way.

Another form of questioning is usually condemned outright, tho as a matter of fact it has its place in good teaching: this is known as the elliptical form, and consists in supplying part of the answer and calling upon the pupil to give the rest. Instead of asking, "What is man's chief end?" the teacher says, "Man's chief end is"—and pauses for the pupil to go on. The method is clearly liable to great abuse, for the teacher may give too much of the answer, and leave only a word or two to be supplied by the pupil. If, for example, the teacher goes on "Man's chief end is to glorify God and to enjoy Him for —— ?" and leaves the pupil to supply only the little word *ever*, the question is bad. But everything depends upon the nature of the word omitted. It is said that the elliptical method is too easy. But if a child cannot answer the question, "Where was Washington buried?" he is not likely to be more successful with: "Washington was buried at —— ?" And yet there is truth in the saying that the elliptical method is easier, the ease arising from the form of the answer, not from the matter of the answer; and for this reason the method deserves the attention of teachers.

A timid child or a child unaccustomed to books and long sentences, may be able and willing to finish a sentence, while quite afraid to venture upon a new sentence of his own. If our purpose were to teach English, the elliptical method should be discouraged. But as we question mainly to secure an interchange of ideas, we may with advantage save the child (especially the dull child) from having to attend to two things at once—thought and its expression. While thus a valuable aid with dull and timid children, the elliptical method must not become habitual. As a change from ordinary questioning it is excellent, but if it becomes the ordinary form there is nothing so tiresome.

Some teachers have the theory that all answers should be given in complete sentences, but this is not so, even in schools where English has to be taught, and much less so in schools where ideas and their effect upon character are the main matters. The rule should be that pupils should answer the teacher as they would in ordinary conversation. To the question "Which game do you like best?" the natural answer is the one word, "Baseball," "Football," "Tennis," or whatever it may be. It is unreasonable to demand that in school the answer should be "The game I like best is baseball."

To secure good answers questions must be clear, direct, and simple.

(*a*) The essence of clearness is that whether the child can answer or not, he is at least sure of what the question means. It is here that the teacher must guard against confusion between connotation and denotation. There are four words commonly used in questioning, that call for special attention, if we wish to attain clearness: they are *what*, *which*, *how*, *why*. In a general way teachers know the meaning of these words, but nothing short of the greatest possible care will save us from confusing them in actual speech. Remember that *what* wants to know qualities; it asks "what sort of?" it deals with the connotation of a word. *Which* wants to know only the particular person or thing referred to: it deals with denotation; it singles out one from a given group. *How* asks for the *manner* in which a thing is done, while if we want to know the *reason* we use *why*. These two little words—*how* and *why*—are misused by young teachers to an extent that is very surprising.

(b) It is a mistake to ask questions which involve long answers, particularly in the case of the younger pupils. It is one thing to know: it is another to express. A child may know not only the story implied in a parable, but also the underlying meaning, and yet be unable to "Give an account of" the parable. At the early stages all questions should be direct, *i.e.*, they should be real questions demanding definite answers. It does not follow that the question as a whole must be short, but it must *end* in a short and pointed question. Thus the teacher may state a case at some length, laying down quite a number of conditions; but at the end he must put a definite issue in the form of a question — a direct question, bringing to a point all the matter previously given, and inviting a decision upon it.

Further, to be direct a question ought to be a question in form as well as in reality. Still this must not be pedantically insisted upon. As an exceptional thing an indirect form may be admitted for the sake of variety. "I wonder what sort of men these were that came to David's cave at Adullam," is obviously not a question at all; but equally obviously it has the same effect upon the pupils as a regularly formed direct question would. But while such deviations may be occasionally permitted, no grace should be shown to those questions which ask one thing by their form and another by their inner meaning, "Can you tell me where the Cave of Adullam is?" The teacher expects to be told where the cave is, but the only answer he has a right to get is "yes" or "no" according to the state of the pupil's knowledge. "What do you know about Tiglath-Pileser?" may be correctly, if not very satisfactorily, answered by the word "Nothing." We must not give our pupils the chance to be funny at our expense.

(*c*) To be *simple* a question need not be easy. "Who is the author of the book of Hebrews?" is a simple but very difficult question. What is specially meant by simplicity in questions is what may be called their singleness: *i.e.*, only one thing should be asked at a time. Teachers who do not prepare their work not unfrequently stumble into questions which involve several independent answers; and still more frequently they change the form of the question two or three times before they finally leave it for the pupil to answer. This careless "thinking aloud," this making up of questions that ought to have been carefully prepared beforehand, is disconcerting to the pupils, who frequently answer some of the rejected forms of the question instead of the final form.

So far the rules we have already had about clearness would apply to these blundering questions, but there is a kind of question that deliberately combines two or three elements. Such questions are called composite, and are to be avoided in the course of a lesson, though they are not without their use as special problems to be treated as separate exercises. "Who chased whom how many times around the walls of what?" or "Who said what, and why did he say it when he was nearly drowned in the sea of Galilee?" are composite questions, and breaches of the rule of simplicity.

Up to this point we have been mainly concerned with the questions, but the answers are equally interesting and important, particularly wrong answers. The teacher must treat all incorrect answers as a means of guiding him in his work. To begin with, such answers frequently give an excellent criticism on the form of the question, and call attention to defects that otherwise might escape notice. Next, wrong methods of study are frequently exposed by the nature of incorrect answers. If the question: When did Charles I. die? meets the reply "On a raw and frosty winter morning"; or the question, "How did David II. of Scotland die?" elicits only the laconic "Childless," neither answer can be said to be incorrect, tho both show that the pupil has not been able to distinguish between the important and the trivial, the essential and the non-essential, in his reading.

Not unfrequently an erroneous answer shows up quite unexpected lines of false reasoning. "Why was Monmouth executed?" once drew the answer, "Because he stole peas." "Why is Madame Patti called the Welsh Nightingale?" called forth the plausible explanation: "Because she sings at night." In both cases the pupil had reasoned as correctly as was possible with the limited circle of ideas at his disposal. The cause of the nightingale blunder is obvious. The mistake about Monmouth arose from the effect upon the imagination of the statement in the text-book that "Monmouth was captured in a ditch with his pocket full of peas." This detail, introduced to show the state of destitution to which the unfortunate nobleman was reduced, had been interpreted according to the boyish experience into the cause of the execution. Teachers call ridiculous answers of this kind "howlers," but however funny they may be to the mere onlooker, to the teacher "howlers" must be regarded as matter for serious consideration. No teacher should rest content with any wrong answer that he cannot trace to its source. It is one of the marks of a first-rate teacher that he can readily explain the origin of apparently meaningless answers.

It is important to know how to deal with answers that are wilfully wrong, and meant by the pupil to be funny. If an impudent answer can be fairly construed as an answer to the question, then the teacher must accept the reproof and repeat his question in such a form as to avoid the objectional reply. But he must not show any temper. He has had himself to blame. But if a funny answer is given in mere bravado, without reference to the exact nature of the question, then the teacher had better merely repeat the question and wait a few seconds for a proper answer. If no answer is forthcoming, he should put the question to a more manageable pupil, and go on as if nothing had happened.

It goes without saying that the teacher should never lose his temper, however aggravating the funny answer may be. He is not, however, called upon to carry his Christian charity to the point of smiling at the impertinence. His strength consists in ignoring altogether the wit of the pupil. Some teachers with the gift of repartee can meet witty pupils with their own weapon. But it is at least doubtful whether the unbrilliant teacher who merely neglects impertinences, may not really exercise the better influence on his class. It is hard to over-estimate the power of quiet earnestness.

University of London. JOHN ADAMS.

Physical Training.

Physical health lies at the foundation of mental power and useful service. For this reason it is one of the first things that should concern the school. The conviction is widespread that physical training is not less important than intellectual training and that the school is enormously one-sided that interests itself solely in intellectual development. It is during the growing period of the elementary school that physical training offers its greatest possibilities.

Physical training means attention to those things that make for bodily well-being. It implies systematic muscular exercise having for its purpose, health, strength and skill of body. These are to be secured thru school-sports and gymnastics. It is common mistake to regard muscular exercise as valuable solely for developing size and strength of muscle. This of course is one of the ends reached. But equally important is the motor control acquired in executing the more complex movements involving higher co-ordination and yielding gains in bodily discipline. This is a functional growth, the advantage of which becomes apparent when considered in the light of the well-known fact that the working power of the brain is essentially restricted to the control of the voluntary muscles.

It is in the motor control of the body that the kindergarten renders such large service to little children.

Physical training is also remedial and corrective in its effects. It relieves and often cures serious ailments. It counteracts disease and corrects defects. Nervous diseases which are increasingly frequent in children are improved and often overcome by systematic exercise. Statistics show that fifteen to eighteen per cent. of school children have curvature of the spine. This and many other defects may be helped and often entirely corrected by judicious training during the period of rapid growth and development.

There can be no doubt that modern conditions of living greatly increase the need for physical training in the school. The adulteration of foods, contamination of air and water, imperfect sanitation, excess of noises, irregular hours of sleep, lack of work—these are the influences that affect the children of the present day and are to be counteracted. City children lack the exercise necessary to give firmness and vigor to the muscles of the heart and lungs. They are often ill-developed and wanting in pride of bodily perfection. It is a mistake to suppose that children will take sufficient exercise in their free play to satisfy physical needs. Systematic exercise so planned as to realize the various ends of physical training is absolutely necessary to a high state of bodily development and health. The benefits are far-reaching and of permanent value. They extend beyond the mere present. Under the favoring conditions of intelligent physical training, children will often outgrow and overcome what would otherwise develop into permanent defects.

School sports should be actively encouraged. A healthy school-spirit is greatly strengthened by this common bond of interest. Well-chosen games have intellectual and moral value; they cultivate individual responsibility, promptness of decision, and give experience in dealing with emergencies. They develop courage, endurance, self- control and the sense of fairness.

Every school building should have an assembly room suitable for school entertainments, parents' meetings, etc. Such a room would serve ordinarily for a gymnasium and for school games. In many cities the hallways are used for this purpose and this is certainly preferable to nothing.

The general movement to rationalize school practice and make it conform to the well-established laws of physiology and psychology is significant and encouraging. Teachers are studying the periods of growth in children, the orderly development of the nervous system from the fundamental to the accessory, the special senses particularly those of eye and ear, mental fatigue, the emotions, the physical basis of temperament, the effects of punishment before fellows, the motor element, etc., and are seeking to establish the practice of the school in the light of this investigation. Altho the school is conservative and habit clings with wonderful tenacity yet the outlook is most hopeful that the school may become more flexible and more genuinely helpful to each child at the point of greatest need.

Grand Rapids, Mich. SUPT. W. H. ELSON.

Care of the Woman Heart.

It is one of the strange discoveries one makes in watching the doings of mankind, that among young women are to be found some who lend encouragement to sarcasm, and even a few who have resigned the control of their tongues to Belial, "in act more graceful than humane," as Milton pictures him. One would expect that of all of God's creatures, a woman in the June of life should be the personification of human loveliness. So much depends upon the care of the heart at this period!

Childish Studies.

Some busy bees seem to be beguiling their shining hours by building statistics upon biographical dictionaries which purport to tell who is what. The politician with us is still too much the schoolmaster of the nation, and the effects of his methods have not been altogether lost in the construction of this sort of literature. We can imagine the exalted feelings of the statistician who finds his name properly recorded, together with all the data furnished by him to the editor. The accuracy with which his autobiographical contribution has been enbalmed is reason sufficient for accepting the work as a standard authority.

And yet his careful compilations appear most ridiculous beside the less scientifically constructed estimates and guesses of the work-a-day world. Perhaps success ought to be measured wholly by the standard of the modern Whoiswhats. In other words, what a man or woman who is thought worthy to be asked thinks of himself or herself, and is willing to furnish for publication in skeleton form, ought to commend itself to the good judgment of the American people, as the only true measure of prominence. At any rate, there has been supplied a new means of keeping those busy who like to work up statistics without sacrificing the comforts of their ain firesides. Of course, second-hand statistics, like everything else second-hand, will be in need of careful disinfection unless they are not worth disinfecting.

Works of Art and Illustrations as a Means of Education.

THERE are two ways in which works of art may be pressed into the service of education. Either they may themselves be made a subject of direct study, or they may be used as a means of imparting knowledge or of supplementing the knowledge derived from other sources. I believe both methods to be extremely valuable, for children as well as for advanced students; but the conditions in the two cases are different, and call for separate consideration.

It is clear that works of art, in themselves, offer an excellent field for training the faculties of observation, of memory, and of comparison. In this way they provide on alternative to nature study which, from the added human interest, may prove more attractive to some temperaments. At the same time, owing to the presence of this human element, and the uncertain factor of individuality in the artist, the study of art, and especially that historical and critical study of it which is most educative, is beset with many difficulties. These difficulties, and an intelligent method of grappling with them, are just what make a historical study of any art — say Greek sculpture or Italian painting — of great educational value. But they also make such study, if it be pursued in any detail, more suitable for the higher classes of schools or for students at a university than for children. I think, therefore, that it would be wiser not to attempt any systematic treatment of such subjects at an early stage. But by judicious comment and explanation some of the principles of artistic development may well be brought out in connection with such works of art as are used in illustration or are hung up on the walls of the school-room.

It is, of course, universally recognized that it is desirable to have good reproductions of works of art, whether pictures, sculptures, or buildings, constantly before the eyes of children. Even if these are not made the theme of any direct instruction, their familiarity will double their interest to the pupil, whenever he does come across them in his lessons or his reading. I leave aside for the present, as outside the scope of this paper, the æsthetic and moral influence which must follow from the constant presence of the most beautiful embodiments of the ideals of various nations and ages.

My chief subject is not the study of art in itself, but the use of works of art as illustrations of other teaching, more especially such illustrations as are used to supplement the teaching of literature, history, or geography. History, above all, lends itself to illustration, by portraits of the principal characters, and by representations of the scenes of events, of buildings, clothes and arms, so as to help the imagination to realize the setting and appearance of the daily life as well as of the great political or social events of the period. It is sometimes possible, by an apt illustration, to explain an allusion by a poet in a more vivid and convincing way than is possible by means of a lengthy verbal explanation. Such direct explanation of single passages, however, can never have a very wide application; and I think it is possible for art to supplement the study of literature in a far more general and more really instructive manner if the illustrations do not cling too closely to the letter of the text.

For purposes of illustration it is possible either to use large wall-diagrams, photographs, or lantern slides, or to have cuts inserted in the text-books used by the pupils. The first plan has the advantage of allowing the teacher to give any necessary explanation or comment, and also of concentrating the attention upon one picture at a time, and so impressing it upon the memory. The chief objection to it — in the case at least of lantern slides, which are otherwise the most convenient form — is that it does not give much time for the impression to sink in, and if a good many slides are shown at once — a thing which there is much temptation to do, when the room has once been darkened and the lantern got into working order — the memory is likely to be confused by the mass of material rapidly passed before the eye. Photographic enlargements, if large enough, are the most satisfactory of all; but they must always be so expensive as only to be available in limited numbers. Large diagrams produced by other processes are often neither accurate nor artistic. Illustrations in books, on the other hand, are constantly before the eyes of the pupils when they want them, and in these days of cheap reproduction, can be liberally supplied. Probably a judicious combination of all these methods of illustration is advisable; and in order that such may be provided, it is most desirable that lists of material available for illustration in various subjects should be drawn up by experts.

Whether illustrations be exhibited on the wall or inserted in books, the same principles must guide their selection. Here, especially in representing objects, scenes, or persons of a bygone age, there are two courses open. We may either use illustrations reproduced as exactly as possible from monuments or documents contemporary with the events to which they refer; or we may use the version given by an artist of some subsequent age, including of course modern times. Either course is defensible; the one thing that must not be done — and that I have seen frequently done in modern series of illustrated classics — is to take a scene from some ancient monument and hand it over to an ignorant draughtsman to modernize. He will not understand its conventions, but will probably reproduce some of them in a misleading way, and surround them with a setting, drawn in quite modern style, which makes the whole unintelligible and absurd. To good historical pictures, on the other hand, there can be no objection, any more than to historical plays well mounted; both alike stimulate the imagination, and are often a real help to the realizing of the life of a past age. But such pictures must be used with discrimination, and in most cases require comment. If they are archæologically accurate, such accuracy ought to be pointed out; if, as is more likely, there are defects in it, these, too, should be indicated. This is especially the case with older pictures.

Old pictures which give in too much detail the surroundings of the artist's own day should probably be avoided with children, unless they deal with contemporary subjects. To take an extreme example, I do not think it would be advisable, as an illustration of Homer, to give a Florentine version of the return of Ulysses. I am inclined to think the same objection applies to a purely conventional archaism, such as that which Raphael employs when he shows the fishermen of the Galilean lake clad in the togas of Roman senators. On the other hand, I do not think there is any harm in employing Greek vase-paintings of the fifth century B. C. to illustrate Homeric tales, or other Greek myths. I must confess to having done it myself; but here, too, explanation is necessary.

The dress and surroundings of the heroic age of Greece were probably almost as unlike those of the age of Pericles in Athens, as those of Florence in the fifteenth century. But in the case of the Greek myths, what we want most to realize, for educational purposes, is how they were thought of by the Greeks of historic period, thru whose literature they have descended to us; and the Greek of the fifth century certainly did not picture the heroes to himself in any other garb and surroundings than those with which he was familiar. We are then justified in using the products of Greek art at its best to illustrate the Greek myths as well as Greek history. But explanation must be given and, above all, false explanations must be avoided. I remember noticing in an "illustrated classic" an Attic-beaked warship, taken straight off a vase of about 500 B. C., and labeled "ship of the time of Homer," which is about as if a modern ironclad were labeled "ship of the time of the Armada"; and this same ship, with its peculiar conventions of drawing, was set afloat on a modern naturalistic sea. The unfortunate school-boy who used that book would either, if he had a healthy sense of humor, laugh at the whole thing as absurd; or, if he were more docile and receptive, accept a totally false impression, and thereby create for himself an unreal and unconvincing picture of the Greek fleet at Troy.

This brings us to the most serious question in connection with the use of contemporary illustrations for historical or literary teaching; there is no doubt that such contemporary illustrations, whether they be Egyptian or Assyrian bas-reliefs, or Greek vase-paintings, or the figures on the Bayeux tapestry, or early wood-cuts, often strike those who are not used to them at first sight as comic, and as certainly to a great degree unintelligible. I believe this is far more the case with grown-up people than with children, because they are more familiar with modern methods of artistic expression. I have found—and I believe my experience is not unusual—that an intelligent child is prepared to accept any genuine and honest attempt at the portrayal of a figure or a scene, and that he will often grasp the meaning of the artist while a grown-up person is unable to see anything but the uncouthness of the design or execution. Nevertheless, a certain amount of preparation and explanation is needful before such illustrations can be rightly appreciated and understood. This does not mean that some general acquaintance with the history of art and the conventions of the various styles is necessary to children before they can use such illustrations with profit; but it does mean that such a general acquaintance is necessary to the teacher, and I think it should be insisted on as a part of the training of all teachers who are called upon to teach any subject for which the use of such illustrations is desirable—all teachers, that is, on the "arts" or humanistic side. They will then be able, incidentally, to impart a good deal of their knowledge to their pupils, and to enable them to use intelligently illustrations of various styles and ages, instead of regarding them merely as ludicrous or meaningless, or, at best, as interesting.

The value of acquiring the faculty of thus seeing things aright, whatever be the style in which they may be expressed, is hardly inferior, even as an intellectual training, to the acquisition of different languages. It must not only add immensely to the pleasure of observation and the appreciation of works of art of all kinds, but also widen the intellectual horizon, and do much to counteract the narrowing influence of local surroundings.

So far we have been considering works of art mainly as used in illustration of other studies. In these days of universal reading this is probably the way in which they will be most extensively used. But it was not always so. In primitive times, the picture chronicle preceded the literary record, and in Egypt and Assyria the paintings and reliefs do more than illustrate the written text; they supplement it and make it far more vivid and real to us. With the advance of literature and art, their provinces came to be more widely separated; but the sculptures or the vases of Greece, if only we know how to interpret them, have hardly less to tell us of the life and thought of the people than we can learn from the literature itself.

In Roman times, the carven chronicle is again in vogue. The column of Trajan, for example, tells us more than any book about the campaigns of the emperor, and of the manners, dress, houses, and character of the Dacian peoples whom he subdued. The Christian church adopted freely so admirable a method of instruction; and the scenes depicted upon the walls of early churches were the chief means of familiarizing the people with the tales of scripture or other legends, and of keeping before their eyes and therefore before their minds the truths these legends symbolized. For children, at least, this method has great advantages; often a series of sculptures or pictures, if well chosen and intelligently commented on, will offer as good a theme for a lesson or a series of lessons as any book.

Museums and picture galleries, visited under proper guidance, may give us invaluable help. Here again, the teacher needs some knowledge and preparation. And such visits to a museum should not, as they too often are, be regarded as a mere treat, or a showing off of curiosities. The ordinary lesson should have so familiarized the children with the notion that statuary and pictures can teach just as well as books, that when they go to a gallery or museum they do not feel that they are departing from the ordinary routine of instruction. This may, perhaps, seem a high standard for teachers to aim at; but I do not believe it is unattainable, and the regular teacher's instruction may easily be supplemented by the help of others—and many such exist—who have made a special study of such teaching.

If treated in this spirit, I believe that an intelligent use of works of art among the ordinary subjects of study may be a most valuable supplement to the general intellectual training. It has the advantage now universally admitted for nature study, in training the eye to observe and the mind to classify visible and tangible objects; it has also the advantage derived from the study of books, in bringing the mind directly into touch with the great ideas and imaginations of other days. Moreover, it serves to bridge over the gulf between the two, and to mitigate the impression of the scientific mind that humanistic studies deal too much with what is unreal and intangible, or of the literary mind that scientific studies are lacking in human interest. A judicious use of works of art, both for illustration and for separate study, may serve as a compromise on which all may agree, and so advance in some degree the solution of the problem of conflicting educational ideals.

ERNEST GARDNER.

How Best to Study Nature.

NO one who has at heart the improvement of education can fail to be gratified by the attention now devoted to nature study. But we must avoid exaggeration. There is always a danger lest undue prominence may be given to a particular subject thru the enthusiasm of its advocates. Too much may be attempted, and the true function of the subject in a well-ordered scheme of studies may be overlooked. One of the most difficult and important duties in devising any scheme of education is to determine the relative educational value of each item in the curriculum, and to assign to each its proper proportion. Where there is exaggeration, reaction inevitably follows. We, who honestly believe that nature study can be made peculiarly useful, should bear this constantly in mind.

Nature study does not readily lend itself to definition. It is not merely a sentimental regard for animals and plants, altho it will foster the love of both: nor is it elementary science, altho it will lay the foundations for the generalizations of science. It is rather a method of teaching than a specific subject. Its aim is to bring the child into direct relation with facts, to lead him from the abstract to the concrete, and to stimulate him to investigate phenomena for himself. This is to promote that process of self-instruction which is the basis of all true education. Viewed thus, nature study does not necessarily involve the introduction of a new subject. The intention rather is to make the living world the groundwork in reading, composition, mathematics and drawing; not so much to impart information as to develop a particular habit of mind; in other words, to use nature study as an instrument and not as an end in itself. In this way we may create an influence which will permeate the whole of school life, and infuse a vitality and reality into every lesson, which books alone can never supply.

The instruction should always proceed in an ever-widening circle from the known to the unknown, commencing with the immediate environment. This is the right method in all education, especially in geography, in which we have too often been in the habit of telling the child about the course of the Nile, while he is left in ignorance of the course of the river that runs by his own home. There are few directions in which the study of nature may be eventually pursued with greater profit and pleasure than by making a regional survey of the flora and fauna of a given district.

In formulating a scheme of nature study, it is immaterial what branch of the subject be selected, whether it fall under the head of botany, entomology, animal physiology, geology, or any kindred subject. Each is equally valuable from the educational standpoint, which is the first consideration. That aspect of nature should be resources of the school, and in which the teacher takes the greatest personal interest, for an enthusiastic teacher makes an enthusiastic pupil. Such advice might seem superfluous, but we must be on our guard against those who, in their zeal for particular methods, decry everything which does not conform to some arbitrary standard.

There is indeed no town or rural district which does not furnish appropriate material. A teacher at one of the schools in a smoke-begrimed town put the river flowing by to excellent use, making it the subject of innumerable lessons. His work shows what may be done in the most unpromising surroundings, and how easily natural features in more favorable localities may be utilized.

Ambitious schemes of every kind are to be deprecated. At a small girls' high school, with which I am acquainted, the teacher has taken about forty yards of a lane behind the school for the purposes of regular observation. Every change in the appearance of the flora is carefully noted by the pupils week by week, and this modest work met with the warm appreciation of a scholar high in authority. He told me that it was one of the most conscientious and effective examples which had come under his notice.

Unquestionably the study should be directed as much as possible to living things, to trace the life history of plant, animal or insect. The proper way in which to study them is in their living state, amid their natural surroundings. Frequent country walks, making the country, in Ruskin's phrase, "a sort of uncovered class-room, a divine museum," ought to be a recognized feature at every school. Plants should be grown in boxes or pots, and insects should be reared in breeding cages.

One of the simplest ways of observing plant life is by the cultivation of a few plants in water. Some transparent jars, which may be placed by the window in any class-room, alone are required. The composition of the food solutions* presents no difficulty, and the cost of the necessary chemicals is trifling. The element of chance is wholly eliminated; each plant behaves as it ought to behave, according to the food which it receives; it dies when it ought to die, and it lives when it ought to live. The pupils can watch the whole process of growth from the seed to the fully developed plant, and it is a source of never-failing interest and instruction.

Latterly so much has been heard of the heuristic method, that it is almost needless to emphasize the importance of not *relying* upon text-books, but we must not rush into the opposite extreme. Wholly to neglect the accumulated knowledge and experience of others is absurd. The child must not be left to discover everything for himself; his mind must be prepared in some measure for what he is to see and observe. It has been well said that the previous history of the mind determines the impression which the sight of any object is to make. "We can only see what we have been trained to see."

What then are we to expect from this study? Its true function is, as I have stated, educational; it has its utilitarian value also, but that, if I may say so, is an accidental advantage. Its invariable product should be greater intelligence, more accurate observation, and a keener interest in all work. The mental discipline, which is inseparable from it, will form pupils, whatever the grade of their schools, qualified to profit by the specialized instruction of technical schools and colleges. The complaint as to the lack of general intelligence and general knowledge in the pupils who go to them, is universal amongst the directors of these institutions. The child has rarely been taught to think. The fault is not confined to primary schools; it is no less common in higher grade and secondary schools. If we use nature study as the constant handmaid to supplement and illustrate the other lessons, by correlating all the instruction with the world of reality and so developing the reflective faculties, we shall fully justify the present movement, and go far towards removing the reproach, which must always attach to an education which restricts itself mainly to the powers of memory.

Mr. Herbert Spencer has eloquently pressed the claims of what we are urging; "if there is a more worthy aim for us than to be drudges," he says, "if there are other uses in the things around us than their power to bring money—if there are higher faculties to be exercised than acquisitive and sensual ones—if the pleasures which poetry and art, and science and philosophy can bring are of any moment,—then it is desirable that the instinctive inclination which every child shows to observe natural beauties, and investigate natural phenomena, should be encouraged."

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*The normal food solution is:—Potassium nitrate, two parts; sodium chloride, one part; magnesium sulphate, one part; calcium sulphate, one part; calcium phosphate, one part (this should be dissolved in a very few drops of dilute nitric acid); iron perchloride, a trace; water, 2000 parts.

This touches the moral aspect of the question. At every step the study of nature teaches patience, trustfulness, and reverence. The more we penetrate her mysteries the more shall we be imbued with the grace of humility. Over all who are in sympathy with her, she exercises a strange humanizing and refining influence. In our darkest hours she may provide a consolation, which can nowhere else be found. When the whole world seems out of tune, and the burden of life beyond our strength, she may revive our drooping spirits.

"With other ministrations thou, O Nature,
Healest thy wandering and distempered child;
Thou pourest on him thy soft influences,
Thy sunny hues, fair forms, and breathing sweets,
Thy melodies of woods, and winds and waters;
Till he relent and can no more endure
To be a jarring and a dissonant thing
Amidst this general dance and minstrelsy:
But, bursting into tears, wins back his way,
His angry spirit healed and harmonized
By the benignant touch of love and beauty."

Nature, too, if in our childhood we have learned to turn to her, will supply increasing enjoyment for our leisure hours. This alone, if there were no other reason, should constrain each of us to spare no effort to lead those for whose education we are in any way responsible, to look to mountain, woodland, sea or stream for refreshment and wholesome recreation, when free from the toil and anxieties of daily life.

London. J. C. Medd.

A school system is benefited in proportion to the improvement of the individual teachers.

A large share, if not most, of the irritation and the consequent waste of energy observable in a school system is due to unbusinesslike, often absurd, division of authority in the supervisory force.

Sarcasm is a species of conceit infused with a virulent poison. It burns thru to the heart. He who dispenses it is injured no less than he at whom it is aimed. It mars the beauty of a human heart as a drop of sulphuric acid would a delicately chiseled jewel-case.

CLASSIC ANTIQUITY.

Life in Ancient Greece. II.

THE GREEK CITIZEN.

THE Greeks learned the division of the day into twelve hours from Babylon, and Plato is said to have invented a water-clock marking the hours of the night in the same way. But in ordinary life, according to the old fashion, a night and the following day were regarded as one whole and divided into seven parts. There were three for the night, one when the lamps were lit, the next the dead hours of the night, and then the dawn when the cocks begin to crow. The day was divided into four: early morning, the forenoon when the market-place began to fill, the midday heat, and the late afternoon.

The Greek rose very early, generally at the dawn of day. His ablutions were but scanty, and there is no trace of any bath in the morning. In older days the hair was worn long, and elaborately dressed, as we can see from coins, so that this must have cost some trouble. But shaving the beard did not come in as a general fashion till Alexander's time, and even then shaving often and having very white teeth are mentioned as rather foppish.

When dressed, the Greek took a very slight meal, corresponding to the coffee now taken in Greece and elsewhere upon getting up, and merely intended to stave off hunger till late breakfast. It is said to have consisted of bread and wine. He then went to call on such friends as he wished to see on business, before they left their houses. The same fashion prevailed at Rome. When this was done, he went for a morning walk or ride, and if a townsman, to see his farms and crops, and give directions to his country steward. But if he lived in the country, he must start early to be in the city when the market-place filled. For if there was important public business the assembly met very early, and in any case he there met all his friends, visited the markets and shops, and if a merchant, was practically on 'Change at this hour.

At noon all business stopped, and the public places were deserted, when he returned to his luncheon. The poorer classes who dined early in the afternoon, and who probably had eaten something more at early breakfast, spent their midday hours, without going home, in barbers' shops, in porticoes, and other places of meeting, where they either slept or gossiped, as their fancy led them. Lawsuits, at which speeches were made and evidence taken, must have been carried on during this part of the day also.

The luncheon of the better classes was a substantial meal, probably serving as dinner for the children, and consisted of hot dishes and wine. It was, however, thought luxurious to eat two heavy meals in the day, and much wine-drinking before dinner was regarded with the same aversion as tippling is nowadays.

The Comedy Writer Menander.—Marble Statue in the Vatican.

When the day became cooler, men went out again, partly to practice gymnastics, which ended in later times with a warm bath. partly to see others so occupied and talk to their friends. Towards sunset they returned home to their dinner, the principal meal of the day, and the only one at which the Greek entertained his friends.

If not a very studious man, or a leading politician, he devoted the evening to conversation and music, either in his family circle, or among his friends. In the former case, he went to bed early; in the latter he was often up all night, and sometimes went from his first feast in company with his noisy friends to knock up other banqueters and enjoy their hospitality unasked. There were no clubs or public-houses open at night in the old Greek towns.

Pluto with Cerberus.—Statue in the Villa Borghese, Rome.

Hephaistos in the garb of a laborer. —Bronze figure.

It should be added that the hours of meals got gradually later, according as luxury advanced, the dinner of Homer's people being never later than midday, and even earlier, if men went out for a hard day's work, and came home in the evening to their supper. In historical times at Athens we find no dinner before four o'clock, so much so, that the Greek word for it is generally mistranslated *supper*, which it never was.

DRESS.

The dress of a Greek gentleman was very simple both in form and color. He wore a shirt or under garment of wool, called chiton or epomis, without sleeves, and drawn tight with a girdle round the waist. As luxury increased, the Athenians adopted linen instead of wool, the Ionians wore the chiton down to the feet, and sleeves were frequently added. Trousers were always considered a foreign dress. Over the chiton was thrown a large cloak shaped something like a Scotch shawl, but squarer, which was wrapped about the figure so as to have only the right shoulder and head free. This was regarded as the principal garment, for it was not thought polite to throw it open, and a man without it, tho in his chiton, was called stripped (gymnos). On the other hand a man wraped in his cloak without any undergarment was thought perfectly dressed. Most of the portrait statues of celebrated men which have reached us are indeed represented in this very way.

Aphrodite in Coic Gown.—Large marble statue.

White was the full dress color for both garments, but other colors, especially various shades of red, dark blue, and green, were not unfrequently worn.

The himation was also doubled, when men were actively employed, and fastened on the shoulder with a clasp or pin. This was done in imitation of the smaller but thicker cloaks, some of which were of semicircular shape, and borrowed from Macedonia. These were worn in war and on journeys.

Scholar in Greek garb, rolls of books, ink stand, pen.—Wall painting.

As to head-dress, the Greeks seem to have usually gone about their cities bareheaded. In case of bad weather, they put on a fur or leather cap fitting closely to the head, and this was commonly worn by slaves. They also used in traveling, to keep off the suns' heat, broad-brimmed felt hats.

They were often barefooted, but also wore ornamented slippers at home, and in the streets sandals strapped with elegant thongs. In hunting or war, buskins of various kinds, reaching high on the leg, were adopted. If we add a walking-stick, which up to the time of Demosthenes was even obligatory at Athens, and was always carried at Sparta, and a seal-ring, we complete our picture of the Greek gentleman's dress.

In Socrates' day an epomis or tunic cost 10 drachmæ (about $2.00), a cloak, four dollars to five dollars, a pair of shoes, two dollars. Lower class people, such as farm laborers and slaves, wore the inner garment alone, but with sleeves, or (in the country) clothed themselves in tanned skins. The general colors of a Greek crowd must have been a dull woolen white, relieved with patches of crimson and dark greens and blues.

FOOD AND DRINK.

The diet of the Greek men varied so much, according to the produce of their land and their means, that it is not easy to describe it generally. We must entirely separate the diet of the heroes as described in Homer from that of plain historical Greeks. The heroes are described (probably with exaggeration) as eating several meals of roast or broiled (never of boiled) meat in the day; with no addition but some sort of bread, and wine. Beef, mutton, venison, and especially pork, are mentioned. Fish and solid forms of milk, such as cheese, are also used, but as the food of poor shepherds and fishermen, and eaten by the heroes only when roast meat is not to be had. This strong animal diet was very distasteful to later Greeks, and only used in the case of training athletes, and perhaps partially in Bœotia and in Southern Italy, which were celebrated for heavy dinners.

The ordinary fare of the poor man was very much what it now is in Greece—bread, olives, figs, cheese, and garlic, with cheap wine, soup, and meat as occasional luxuries. But the common bread of the old Greeks was not fermented or baked. It consisted in a simple dough, made of barleymeal, which when dry was moistened either with water, or with wine and oil, and eaten without further cooking. It seems in fact to have been more like cold porridge than anything else we can imagine. This was the universal bread at Sparta. The better classes used wheaten flour with which they baked bread. But with all Greeks, especially Athenians, some kind of bread was so universally considered the staple food that all additions, even meat, were called *relish*, if we except sweetmeats, which took the place of our dessert.

There were many kinds of wheaten bread, both of fine flour, and mixed. There were also all manner of sweet cakes, which were prepared with honey, as the Greeks only used sugar (if they knew it at all) in medicines, and were flavored with various seeds.

Their garden vegetables are not easy to identify by their names, but there were certainly in use varieties of peas, beans, and vetches, leeks and onions, cresses, parsley, and thyme. They also ate truffles and mushrooms. These and other vegetables were either boiled into vegetable soup, or served up in hot dishes with sauce, or dressed as salads. Olives were pickled, as they still are, for a relish. Dried figs and grapes were much esteemed.

This varied vegetable diet was of course more prominent in country houses, where people had their own gardens. In the towns, especially at Athens, in addition to dried fruit, the use of fish became universal. Fresh-water fish (if we except the eels of Lake Copais in Bœotia) were not so much esteemed as the various sea-fish (including shell-fish), with which the Greek waters abound. There was, moreover, a great trade in salt fish, not only from the Black Sea, but even from the coasts of Spain.

While the fish market, the cheese market, and the vegetable market are constantly mentioned at Athens, we seldom hear of butchers or a meat market. The eating of meat must have been almost confined to sacrificial feasts, for in ordinary language butcher's meat was called *victim*, and opposed to *game*. As of old they ate beef, mutton, kid, and pork, also salting the latter and making it into sausages. Of game, the hare was the most esteemed. Fowls were in common use, and of wild birds the thrush was thought the greatest delicacy. Eggs were usual, but butter scarce, its place being chiefly supplied (as is now the case in Greece) by olive oil. The cooking of all these materials became more and more elaborate as luxury increased, so that the profession of cook assumes a strange importance in the comedies, which depict to us later Greek society.

The old Greek, like his modern descendants, was very fond of good water, and prized it highly, tho Greek towns were often badly supplied with water for other purposes. The cooling of water, and of other drinks, with snow was well understood. Next to water, milk must have been in the oldest times his principal drink. But cow's milk was not liked, and even regarded as unwholesome.

The first milk (beastings) of goats and sheep was prized, but in general all milk was used for cheese, just as is now the case among Greek shepherds.

The use of wine was early and universal. It was distinguished as to color—black, the strongest and sweetest, white the weakest, and golden, which was dry, and thought most wholesome. It was also distinguished by the place of its growth and its age.

The rocky islands and coasts, many of them of volcanic soil, produced the best wine. It was made with great care; the first juice which ran from the press before treading being thought the best, and the pressed grapes being used to make a common wine or vinegar. It was often boiled, and mixed with salt water for exportation, often made aromatic by various herbs and berries, and preserved in great jars of earthenware, sealed with pitch. When to be used, it was often strained and cooled with snow, and always mixed with a good deal of water. Half-and-half was the strongest mixture allowed among respectable people, and the use of pure wine was rejected as low and dangerous, and only fit for northern barbarians.

LANDED PROPERTY.

At every epoch of Greek history land was considered the best and the most important kind of wealth, and the landholder enjoyed privileges and rights not allowed to other men, however rich. This arose from the early form of Greek society. It is clear in Homer that the nobles possessed the greater part of the land as their private property, and much of even the kings' wealth was made up of estates. These were also presented to public benefactors and other distinguished persons.

What land was possessed by the common people can only be judged from Hesiod, who described what we should call tenant farming—the occupying of small pieces of land in poverty, without telling us whether it was freehold or rented from the nobles. It was probably the former, at least in Bœotia, where we can imagine the rough slopes unoccupied of old as they now are, or covered with trees. These farms could be held by anyone who had the perseverance to clear and till them. In later days, when aristocracies prevailed, they also took for themselves the lands, so much so that at Syracuse and elsewhere they were called "the land-sharers," as opposed to laborers and tradespeople.

In some states, such as Sparta, it was said that the nobles, or conquering race, divided the land so as to leave the greater portion in equal lots for themselves, to be worked by their slaves or dependants, and a smaller portion to the former owners, who were obliged to pay rent to the state. But of course no such equality of lots, if ever carried out, could last. In all states we find the perpetual complaint that property had come into the hands of a few, while the many were starving. The Athenians met this complaint by allotting the lands of islands and coasts which they conquered among their poorer citizens, who retained their rights at Athens while holding their foreign possessions.

HOUSES.

As was before observed, the older Greek houses built in narrow irregular streets were of little value, being very plain and without any ornament. Leotychides, who was king of Sparta in B.C. 500, could not contain his wonder at a ceiling panelled in wood, which he saw at Corinth, and Demosthenes tells us that the houses of the most celebrated Athenians at the same period were so modest as to be in no way different from those of their neighbors. Such houses, which remained the ordinary fashion all through Greek history, were of course not very valuable, and we hear of one worth only three minæ (about $60 of our money), of another at Eleusis worth five, and Demosthenes speaks of what he calls a little house worth seven (about $140). But we know that Alcibiades and other fashionable men of his time began to decorate their houses with paintings—a fashion which became quite common at Tanagra later on; this and other improvements raised the price of some houses to forty or fifty minæ, and the rich banker, Pasion, possessed one which was let in lodgings and which was rated at 100.

All these prices are very low when compared with our standard, and can only be explained by the fact that at Athens, which was probably the most crowded and the dearest place in Greece, the circuit of the walls was greater than that required for the houses, so that there was always building ground to spare. It appears that Athenian citizens did not invest more than the fifth part of their property in dwelling-houses, unless they kept them for letting out.

The ordinary rent of country houses in Attica was from eight to eight and three-quarters per cent. of the total value, which is about the same that a builder now expects for the money he invests in houses. But when we reflect that the ordinary rate of interest was not five per cent. as among us, but twelve, we have another proof that houses and house-rent were cheap in Greece. But we should also remember the fact that as most of the day was spent abroad, the house was by no means so important as it is in our colder and harsher climate.

PERSONAL PROPERTY.

By far the most important part of personal property was the possession of slaves and of ready money. There is indeed some doubt among Greek writers about the classing of the latter, and generally we find the money left by a citizen in bank counted as a part of his real property in the law courts. There can be no doubt that gold and silver were very scarce in Greece up to the time of the Persian wars, the first large quantities being presents from the Lydian and other Asiatic kings. Even in later days great fortunes were not frequent, and the Greeks always kept much of their wealth invested in slaves and in vessels of gold and silver or plate, as we should call it. Ready money seems always a small fraction of the full value in these lists.

The oldest banks in Greece had been the temples, in which all manner of valuables were deposited for safety. The priests had also been in the habit of lending money, especially to states, upon public security. But in later days we find banking, especially at Athens, altogether a matter of private speculation.

It is difficult for us to put ourselves in the place of the ancients as regards slaves. They were looked upon strictly as part of the chattels of the house, on a level rather with horses and oxen than with human beings. No Greek philosopher, however humane, had the least idea of objecting to slavery in itself, which was, Aristotle thought, quite necessary and natural in all society; but there were Greeks who objected to other Greeks being enslaved and thought that only barbarians should be degraded to this condition. Hence, any Greek general who sold his prisoners of war as slaves, was not indeed thought guilty of any crime or injustice, but was sometimes considered to have acted harshly. Still a vast number of Greeks who might have been brought up in luxury and refinement, were doomed to this misfortune, in early days, by the kidnapping of pirates, as Homer often tells us; in later, thru the many fierce civil wars; in both, by being taken up as foundlings, since the exposing of children was common, and most states allowed the finder to bring up such infants as his slaves. Frequently the men of captured cities were massacred, but in almost all cases the women and children were sold into slavery.

There were some parts of Greece, such as Laconia and Thessaly, in which old conquered nations were enslaved under the conditions of what we call serfdom. They were attached to the land of their master, and supported themselves by it, paying him a very large rent out of the produce. These serfs, called by many names, *helots* at Sparta, *penestæ* in Thessaly, *clarotæ* in Crete, were also obliged in most places to attend their masters as lightarmed soldiers in war. That they were subject to much injustice and oppression is clear from the fact that they repeatedly made fierce and dangerous insurrections, and a writer on the Athenian state significantly complains that such was the license allowed at Athens to slaves, that they actually went about dressed almost like free men, and did not show any fear or cringing when you met them in the street.

Still tho slaves were on the whole better treated at Athens than elsewhere, they were always liable to torture in case their evidence was required, as it was common for the accused to offer his slave's evidence if he was suspected of concealing any facts which they knew, and they were not believed without torture. So also the respectable and pious Nicias let them out by thousands to be worked in the Laurian silver mines, where the poisonous smoke and the hardships were such that half the price of the slave was paid yearly by the contractor who hired them—in other words, if they lived three years Nicias received one and a half times the value of his slaves. The contractor was also obliged to restore them the same *in number*, no regard being had of the individual slave. Again, we find women slaves deliberately employed by their masters in the worst kind of traffic.

The general price of slaves was not high, and seems to have averaged about two minæ ($40); even in the case of special accomplishments it did not often exceed ten minæ. They wore a tunic with one sleeve, and a fur cap, in fact the dress of the lower class country people.

CATTLE.

The most important domestic animal in Greece, as in the rest of Europe, was the horse. Among the Homeric nobles, who went both to war and to travel in chariots, the use of horses was very great, and one Trojan chief is said to have possessed a drove of 3,000. And yet their carts were drawn by mules. In later days, the use of chariots in war and carriages in traveling almost disappeared from Greece, and was practiced only in Asia Minor. I suppose this was owing to the scarcity and bad state of the roads.

Horses (except in Thessaly and a few other places) were only kept for cavalry purposes, and also for such displays as the Olympic games and the state processions in religious festivals. At Athens to keep horses and to drive four-in-hand (in public contests only) was a proof of either great wealth or great extravagance. The knights of cavalry were of the richest class, and only kept one horse each as a state duty. We know that the very cheapest price for a bad horse was three minæ—that is to say, more than the average for a good slave, tho not in itself a large sum. Twelve minæ seems about the average price for an ordinary cob. The enormous and perfectly exceptional sum of thirteen talents is said to have been paid for Alexander's horse "Bucephalus." (This name was one used of a special breed called *oxheaded*, from their short and broad head and neck, and which were celebrated in Thessaly.) On the whole, horses in Greece were rather an expense than a source of wealth.

For draught purposes and for traveling with packs, much greater use was made of mules and donkeys, especially of the former, as is still the case all over Greece. We have no certain knowledge as to the prices given for these animals. The history of the use of oxen is, on the other hand, much better known. In Homeric times, and before the use of coined money, prices were fixed by the number of oxen a thing would cost, and this old practice is preserved in the Latin word *pecunia* (from *pecus*) for money, and in the English *fee*.

But according as men, and with them farming, increased, so much land was withdrawn from pasture that few more oxen were kept than what were wanted for field-work and for sacrifices. Beef was thought heavy diet, except in Bœotia; and cow's milk was never much liked by the Greeks. In out-of-the-way parts of Greece, such as Eubœa and Epirus, there were still large herds, and this was also the case about Orchomenus; but in general we hear that hides and even cattle were imported from the Black sea and from Cyrene.

We are told that in Solon's days an ox was worth five sheep, but probably in later days the difference was greater, for, while oxen became scarce, the feeding of sheep and goats must at all times have been a very common employment thruout Greece.

The old Greek peasant dressed in sheepskins, made clothes of the wool, used the milk for cheese and the lambs for feasting and sacrifice. We hear of no importing of wool into Greece, but find that the Ionian colonies in Asia Minor, such as Miletus and Laodicea, were most celebrated for fine woolen garments, which they made of the wool of the flocks of Mysia and Phrygia. Many districts all over Greece were also famed for their woolen stuffs, so much so that the woolen cloaks of Pallene were given as prizes to victors in some of the local games. Perhaps Arcadia has remained the least changed part of Greece in this and in other respects. Even now the shepherds go up in summer with great flocks to the snowy heights of Cyllene, and live like Swiss peasants in *chalets* during the hot weather. In winter they come down to the warm pastures of Argos and Corinth, where a tent of skins under an old olive tree affords them sufficient shelter, with a hedged-in inclosure protected by fierce dogs for their flocks. Such inclosures and even stalls are mentioned in Homer.

We know little of pigs, beyond that their hides were used for rough coats, and that Homer's heroes were very fond of pork. We hear of large droves being kept in the mountainous parts of Arcadia, Laconia, and Ætolia, where they fed on the acorns in the oak woods.

Fowls were not a usual article of diet. The cock is spoken of as a Persian bird, the pheasant as a Colchian, and peacocks were an object of curiosity at Athens in Pericles' day.

The culture of bees, on the other hand, was of great importance, as it took the place of the sugar plantations of our day—all sweetmeats being flavored with honey. That of Hymettus was, and is still, the best in Greece, tho that mountain is very barren, and only produces very small wild plants, which, however, flower freely.

ON PROPERTY IN GENERAL.

It seems certain that the greatest part of the wealth of the Greeks consisted in these out-of-door possessions, which were managed by slave stewards and shepherds for their masters, if these lived in the city. There is reason to think that they neither laid up much money in banks, nor kept any great treasures in the way of changes of raiment, like the Orientals, nor in furniture and works of art, like the Romans and moderns. But owing to the many wars and invasions, this agricultural wealth was precarious, and liable to sudden destruction. House property, again, which in walled towns was pretty safe, is from its own nature perishable. Private wealth therefore was not great on the average, and the splendid monuments of Greek art in its best days were all the result of public spirit and not of private enterprise or bounty.

THE GREEK AT HOME.

While the citizen prized above all things his liberty and his rights as a member of the state—a feeling which produced in many cases a citizen democracy—this principle was unknown within the household, in which he was a despot, ruling absolutely the inferior members, who had no legal grades except as distinguished into free and slaves. The laws were very cautious about interfering with his rights, and he was permitted to exercise much injustice and cruelty without being punished. If in such a case he was murdered by his dependants, the whole household of slaves was put to death, unless the culprit was detected. Nor could a household exist (except perhaps in Sparta) without the master. If he died, his widow became again the ward of her father or eldest brother, or son; and so strongly was this sometimes felt that men on their deathbeds betrothed their wives to friends, who were likely to treat them and their orphan children with kindness. Of course clever women and servants often practically had their own way, and ruled their lord or master; but the theory of the Greek home was nevertheless always that of an absolute monarchy, if not a despotism.

THE LADY OF THE HOUSE.

There were two distinct styles of female dress prevalent. The first was the Dorian, which was noted for its simplicity. Unmarried girls at Sparta often wore but a single light garment (chitonion) fastened with clasps down the sides—a dress much criticised by their neighbors. Over this was the Doric peplos, fastened on the shoulders with clasps, and leaving the arms bare. The Ionians wore a long linen chiton with sleeves, which reached down to the ground, and over it a large flowing wrapper fastened with a girdle, worn high or low according to fashion; whereas the other band called strophion was worn under the chiton and took the place of modern stays.

As a general rule, unmarried women confined their hairdressing to mere artistic arrangement of the hair itself, while married women wore bands, fillets, nets, and coronets. Dyeing the hair was not uncommon, and the fashionable color was auburn, or reddish fair hair.

Women's shoes were very carefully made, and they carried fans and parsols, as may be seen in the terra-cotta figures so common in our museums. Both sexes wore rings but in addition the women wore earrings, armlets, and ankle-rings, generally of gold. These were the ornaments against which lawgivers made enactments, and which were forbidden or discouraged in days of trouble or poverty. The ordinary color of women's dress was white, but saffron cloaks, and even flowered patterns, are mentioned.

The constant outdoor life of the Greek gentleman, his many occupations in politics, and campaigns in war, must have made a sensible wife even more necessary than she is to modern men, and yet we do not find that any Greeks valued her high qualities for these important duties rightly except the Spartans. For among them alone we find the mistress of the house a person of real importance, appearing when she chooses in public, and even offering an opinion which is respected on public affairs. In cultivated Athens, on the contrary, she was only taught spinning and cooking, and what rude medicine might be wanting for the treatment of her household in trifling illness. One of her main duties was always the weighing out of wool to her women slaves, and her own working at the loom. If a lady of the higher classes, she was not supposed to appear to male visitors, but only saw her lady friends and her nearest male relatives in her own house. She seldom went out, except either to the funeral of a near relation or to some religious procession and sacrifice.

Thus the liberty of women varied from a freedom as great as need be in Sparta to a life of seclusion and neglect at Athens. Other states may have held an intermediate position. As for the vaunted dignity and liberty of ladies in Homer, it is to be remarked that he speaks of the wives and daughters of reigning princes, who probably retained the same importance in historical Greece, wherever they were to be found. For example, aristocratic ladies, such as Cimon's sister, Elpinice, were unrestrained, even at Athens, and went where they chose. This was also the case everywhere with the poor people, who could not afford to keep their wives and daughters in the idleness and the restraint unfortunately so fashionable in higher life.

In Homeric days we find the old barbarous custom still surviving of buying a girl from her father for a wife, and this was commonly done, unless the father himself offered her as a compliment. The father, however, usually gave her an outfit from the price he received for her. In case of a separation this outfit came back to the father, but he was also obliged to restore the price he had received for his daughter. She does not appear to have had any legal rights whatever. In later days the custom of paying money was reversed, and the husband received with his wife a dowry, which was regarded as common property with his own, so long as she lived with him. In case of separation or divorce, this dowry had to be repaid to her father, and at Athens 18 per cent. was charged upon it in case of delay in repayment. In many states to marry a second wife during the life of the first was against the practice, and probably the law, of the Greeks, but concubinage was tolerated and even recognized by them, tho a married woman had at Athens a right to bring an action for general ill-treatment against her husband, in which she was obliged to appear and give evidence in person.

The dowry seems to have been partly intended as a useful obstacle to divorce, which required its repayment. But we find that heiresses made themselves troublesome by their airs of importance, and this is referred to in Greek literature, in which men are frequently advised not to marry above them in wealth or connections. As all citizens were considered equal in birth, and as marriages with aliens were illegal and void, we do not hear of advice to young men not to marry beneath them. To marry a poor citizen girl was always considered a good deed, and is commended as such.

WEDDING CUSTOMS.

Tho marriage among the Greeks was recognized thoroly as a civil contract, for the purpose of maintaining the household, and raising citizens for the state, yet a religious solemnity was considered by them not less essential to its dignity than by us, and tho this ceremony was not performed by an official priest, it consisted in prayers and offerings to the gods who presided over marriage. These were generally Zeus, Hera, Aphrodite, and Artemis, but many local fashions existed. So also the full moon and the winter season were generally but not everywhere preferred.

A bath in the most sacred water of the district was thought necessary before the union, by way of purification. Omens were carefully observed, and votive offerings dedicated to the gods. The preliminaries closed with a solemn sacrifice and feast combined, at which the bride was present, closely veiled, with her female friends. This was often a large dinner party, for we find laws

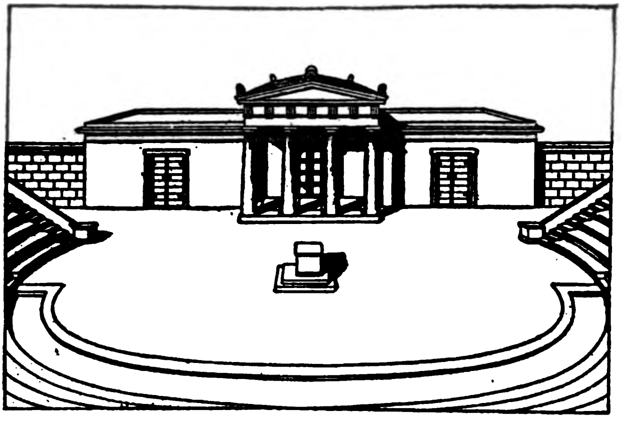
Attic School Scenes.—Vase picture.

restricting the number to thirty, and complaints of the bad taste of much display. She was then brought in solemn procession late in the evening to her husband's house, generally on a carriage, with the bridegroom and his best man sitting at either side of her. Both were covered with garlands and perfumed, while Hymenæus or marriage song was sung by the company to the sound of harps and flutes. The bride's mother had the special duty of carrying a torch behind the carriage, while the bridegroom's mother received them torch in hand at his door.

The bride brought with her some household utensils, and was presented with others, and with sweetmeats, on her arrival. The next morning the married pair separated for a day, and the bridegroom slept at the house of his father-in-law, when the bride sent him a present of a garment. Then only the young couple were to receive their friends, who offered congratulations and wedding-presents, which were called anacalypteria, because the bride unveiled herself to her friends on that day.

Such were the general customs of a Greek marriage, but many old and rude habits survived in various places. Of these the most primitive was that of Sparta, where the bridegroom pretended to carry off his bride by violence, and visited her secretly for some time even after his marriage. This marriage by capture is still common among savages, and points to a ruder state of life than the marriage by purchase, which was common in Homer's time.

University of Dublin. J. P. Mahaffy.



Reconstruction of an ancient Greek theater. After Doerpfeld and Reisch. Actors performed on the level ground (orchestra). There was no elevated stage. The building represents the "scene" or place from which the actors issued. In the center stands the "thymele" or ancient sacrificial altar.

SUPPLEMENTARY.

The material given below is intended to serve as a helpful supplement to the child-study articles in the present number, as well as to other departments.

Eyesight in School.

[SUMMARY OF A REPORT BY R. BRUDENELL CARTER.]

IN investigation of the vision of 8000 London school children by Messrs. R. Brudenell Carter and Belcher Hickmann showed that only 40 per cent. possessed normal vision in both eyes. The object of the inquiry was to ascertain: — (1) What proportion of school children have vision below the normal standard. (2) The causes to which subnormal vision is due. (3) Whether these causes bear any definite relation to the conditions of school life. Mr Carter says:

" The idea of ' normal vision ' is, of course, a purely arbitrary one, based upon experience and observation of the power of sight commonly possessed by healthy people in civilized countries; and the definition of the term is that the person to whom it is applied is able to see an object of given magnitude at a given distance. For ordinary purposes, it is usual to employ as test objects capital letters, printed in block type, the height of each letter being five times as great as the width of its component limbs or parts. In order that an object may be visible, the image of it formed upon the retina of the eye must be of a certain magnitude, and the magnitude of the image depends upon that of the ' visual angle ' which it subtends. The rays of light, proceeding from the boundaries of any object of vision to the eye, meet and overcross within the latter at its optical center, O, Fig. 1, a point usually about 17 millimeters in front of the retina. In their further course over those 17 millimeters they diverge, and thus they finally cover a retinal area the size of which is governed by that of the angle at

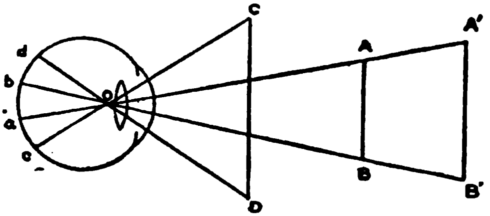


Fig. 1.

which they met. The magnitude of this, the 'visual' angle, depends partly upon the size of the object and partly upon its distance.

"In Fig. 1 the line CD represents an object placed near to the eye. The rays of light proceeding from C and D, the extremities of this object, meeting within the eye at O, and containing the large visual angle COD, proceed to fall upon the retina at the points *c d*, and to form between those points an image of corresponding magnitude. The line AB represents a smaller and more distant object, and the smaller visual angle AOB leads to the formation of the smaller retinal image, *ab*; while, to show that the distance of the object, as well as its size, is a factor in determining the magnitude of the retinal image, the line A′B′ represents an object larger than AB, but so much more distant from the eye that the angle A′OB′ is equal to the angle AOB, and the retinal area covered by the image is in both cases the same.

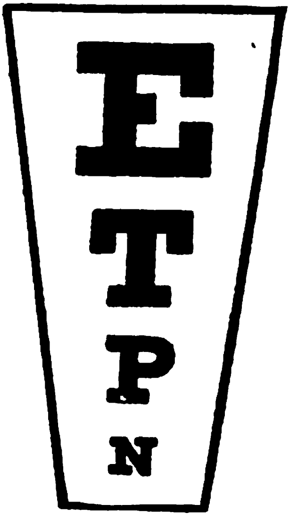


Fig. 2.

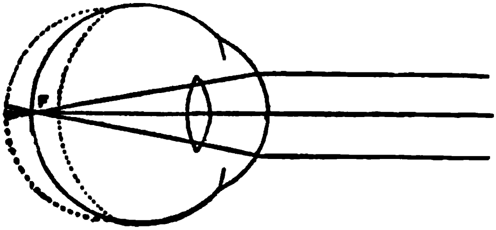


Fig. 3.

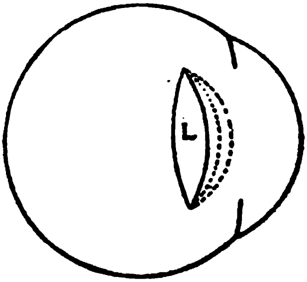


Fig. 4.

"Normal vision is defined as the power to recognize capital letters of such a size and at such a distance that their limbs or parts subtend a visual angle of one minute, and that each letter as a whole subtends a visual angle of five minutes. In the conduct of the examination revolving disks, arranged to display four letters at a time thru a vertical slit, as in Fig. 2, were employed.

"The uppermost of these four letters was of a size to be recognizable by normal vision at 40 feet, the next at 30, the third at 20, and the fourth at 10 feet. The children were placed 20 feet from the disk, and the eyes were tested separately. The degree, or, as it is technically called, the 'acuteness' of vision, is expressed by a fraction the numerator of which is the distance of the eye from the object, while the denominator is a figure expressing the distance at which the smallest object recognized would be recognizable by a normal eye. Thus, in the arrangement described, an eye able to read the 20 feet letters at 20 feet would be said to have vision equal to 20-20ths = 1, or normal. An eye reading only the first, or 40 feet letters would have 20-40ths, or only half the normal. Finally, an eye capable of reading the smallest letters at 20 feet would have double the normal acuteness."

Among the 8,000 children examined, 40 per cent. had normal vision in both eyes; 12 per cent. had normal vision in the right eye and subnormal in the left; 8 per cent. had normal vision in the left eye and subnormal in the right, while 39 per cent. had subnormal vision in both eyes. Comparing boys with girls, it was found that 43 per cent. of the former and 33 per cent. of the latter had normal vision in both eyes.

A further examination was then made to ascertain the presence or absence of diseased conditions or errors of refraction to which defects of sight are mostly due. The eye is constructed on the same principle as a photographer's camera, and consists of an optical combination adapted to form images of visible objects, and of a sensitive screen or retina which receives those images. To produce clear images and definite and exact visual impressions the light proceeding from the object of vision and entering the eye must be accurately focused upon the screen by the optical combination. In the eye the distances between the several parts of the organ are constant, and the necesary adjustments are made by muscular pressure or what is called "accommodation," which, by increasing the power of the optical combination, shortens the focal length of the internal lens. In an ideal eye the principal focal length of the optical combination is the same length as the axis of the eyeball. The continuous dark line in Fig. 3 shows such an eye in diagrammatic section; here the focus F falls exactly upon the retina. A person with such eyes is said to be emmetropic — *i. e.*, having eyes with normal vision.

Emmetropia is therefore that variety of refraction which produces normal vision. Deviations from this or errors of refraction may exist in either of two opposite directions, shown in Fig. 3 by the dotted and by the interrupted line respectively. These are known as hypermetropia or long sight, and myopia or short sight. In the former case the focal length of the optical combination is greater than the axis of the eyeball, in the latter it is shorter.

In Fig. 4 the dotted line shows the increase in the curvature of the internal lens which is required by an emmetrope for near work, and by a hypermetrope for distant vision; while the interrupted line shows the additional increase required for near work by the hypermetrope.

Hypermetropia is almost universal in some small degree, especially during childhood. Myopia, which is due to the elongation of the eyeball, is sometimes inherited, but more frequently it develops during childhood. It is induced — this is a fact which should be specially noted by parents and teachers — by close work of the eyes upon small obects and in a defective light.

Another cause of defective vision is what has been termed by the late Professor Whewell, "astigmatism," a state in which the eye, as a whole, has no focal point. It is due to faulty curvature of the cornea, which, instead of being a portion of a sphere, is curved something after the fashion of the bowl of a spoon.

After reviewing the results of his inquiry, Mr. Carter sums up as follows:

"I think it may be concluded that the eyes of the children whom we examined, and presumably those of London school children generally, are in no way injuriously affected by the conditions of elementary school life. The enormously preponderating visual state is one of hypermetropia, on the whole of very moderate degree, and such as to be readily overcome by the active accommodation and the flexible lenses of early life. When hypermetropia is of high degree, it is liable to become a source of weariness, especially in badly lighted schools or with weakly or underfed children, but, except in this way, it would not be a matter of much account. It would scarcely be an impediment to the pursuit of coarse handicrafts, and, in finer ones would only cause a demand for spectacles a few years earlier than in the case of emmetropes. The great cause of alarm to school managers has now for some years been progressive myopia; but I have failed to find evidence of any extended prevalence of this condition."

The existence of sub-normal vision in so many London children is to be accounted for, therefore, not by errors of refraction, but simply lack of training. Town children are at a special disadvantage in this respect; their environment is not calculated to stimulate their visual power. To remedy this defect children should be early encouraged to observe the forms and colors in external objects, and to describe them accurately in writing.

In concluding his report, the writer makes two practical suggestions which, it is to be hoped, will be adopted not only in elementary, but in secondary schools also:

" In the first place, I think it should be the duty of every teacher, on the admission of a new pupil, to test his or her vision, and, if it were found sub-normal, to mention the fact to the parents, and to recommend them to seek advice in reference to it. For this purpose every school should be provided with one or more sheets of test letters, fitted to be hung up in a convenient place in good daylight, and to be seen by the pupil from a sufficient distance. A line, such as that below, should be read at 16 feet, and might easily be made to slide behind a larger card, in which there should be an opening only sufficient to display one letter at a time.

A P O R F

" A child unable to read letters at 16 feet should be allowed to approach until he could read them, and then taking x as the distance from them which he had reached, his vision would be x—16ths of the normal.

" Another point on which I would lay stress is the great desirability of giving a place to excellence of vision among the various physical qualifications which are habitually tested by competition, and for which prizes are awarded. A seeing contest would seem strange while the idea was new, but it would be just as reasonable as any other, and far more useful than most. It would tend very powerfully to diffuse a knowledge of what seeing ought to be, and would bring hundreds of eyes under training which they would not otherwise be likely to receive, and by which they could not fail to benefit. Not only would the individual sight be improved by exercise to some extent, but, from anatomical reasons which it is not necessary here to set forth, the improvement would be likely to descend to the offspring, and thus to be perpetuated in the race. The Volunteer movement had, in many ways, been of great service to the country, and it would become more serviceable still if the various regiments would take up this question of the exercise and training of vision. It is at least certain that our riflemen would not shoot worse for having learned to see better."

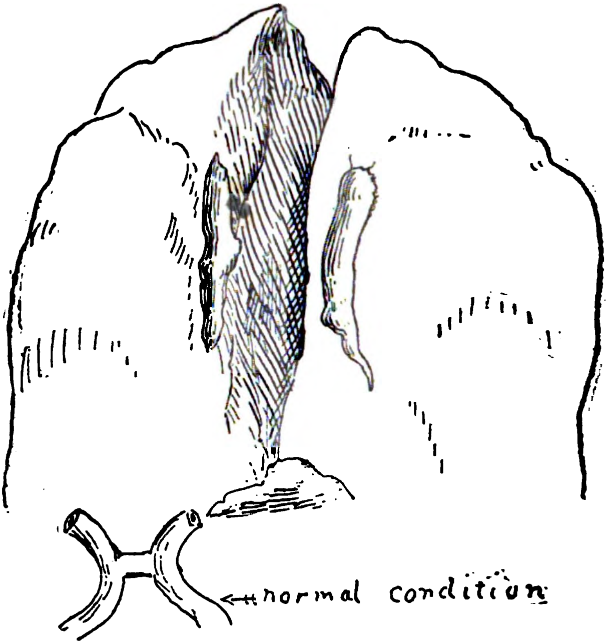
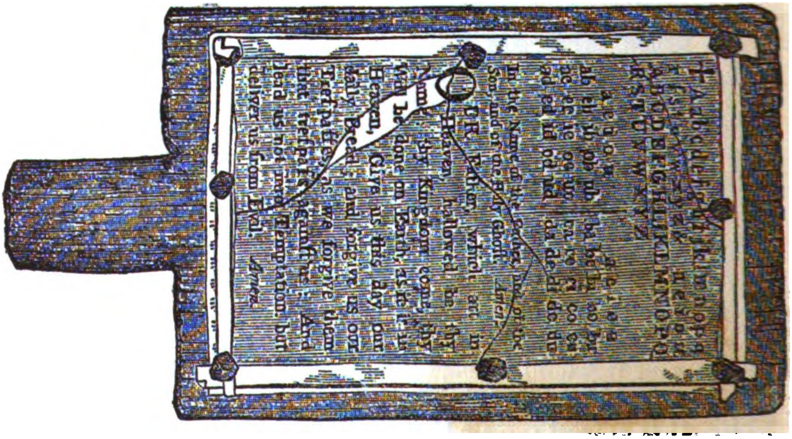


Diagram illustrating case of disconnected nerves of sight described on page 496.



The hornbook of our great-grandfathers. The valued print is covered with a translucent sheet of horn.

REVIEW QUESTIONS.

Based upon the contents of EDUCATIONAL FOUNDATIONS
for December, January, and February.

Selections from the best lists of answers received by the Editor will be published. Quotations should be indicated in the text. A copy of a valuable pedagogic book will be sent to the one from whose list the largest number of answers are selected.

1. President Charles W. Eliot, of Harvard university, says, "These six I believe to be essential constituents of education in the highest sense: we must learn to see straight and clear; to compare and infer; to make an accurate record; to remember; to express our thought with precision; and to hold fast on lofty ideals." Discuss the scope of each separate statement.

2. How may a superintendent of schools make himself an important factor in the community and at the same time strengthen his hands as school superintendent?

3. What rules of caution should a school superintendent observe in social function, outside of the actual supervision of schools?

4. Discuss the statement made by C. B. Gilbert: "Theoretically, no man is in a better position to serve the public in this capacity than the school superintendent. He is the school-master of his town epitomized. He represents in his own person, or should represent, the educational force and the educational ideals of the community."

5. Who was the founder of the first important European school for the training of pedagogical teachers for elementary schools?

6. To whom is usually ascribed the honor of having inaugurated the normal school movement in Germany? (Describe his work in brief outline.)

7. Give a brief sketch of the origin of training schools for teachers in America.

8. What is the legitimate sphere of the American normal school? Discuss.

9. What quality have all good methods of teaching in common?

10. What is meant by a process of dialectic, or a dialectic method in teaching?

11. Give a brief sketch of Socrates' way of teaching.

12. What is meant by Socratic irony? Give an example.

13. What was almost invariably the first step of the Socratic method of instructing a pupil?

14. What stages is a pupil caused to pass, by means of the Socratic method?

15. Illustrate by an example the Socratic method of teaching.

16. What is the essential element of the Socratic method?

17. How may pupils be led to see the incompleteness of their answers in a Socratic lesson without being humiliated? Illustrate your answer by an example.

18. Explain the distinction between "telling" and "eliciting," and deduce rule of guidance for the teacher.

19. Wherein consists the chief value of the Socratic method?

20. Is it true that each school study has a specific moral value? Discuss and illustrate your answer by examples.

21. Prepare a list of topics for practical lessons in morals and manners.

22. Dr. Walter L. Hervey writes: "The most effective method in moral Education is positive rather than negative. A mind filled with good interests, high ideals, and helpful activities has no room for evil. Love is a stronger and better motive than fear." Discuss and deduce working rules for school management and construction.

23. What place does pedagogy assign to the course of study in the general scheme of Education?

24. Supt. W. H. Elson writes that the making of a course of study "is a delicate and difficult work requiring a high degree of professional skill, a sane perspective of values among the various subjects of instruction, an intelligent appreciation of the scope and aim of education, and a judicial attitude of mind." Discuss and give reasons for each statement.

25. What is the aim of nature study? Give reasons for your answer. Illustrate meaning by a lesson outline.

26. Dr. John P. Munson says in his book, "Nature Study," that "time spent in silent contemplation of an object is well spent." Deduce a working rule for the teacher and illustrate by examples.

27. In order to make the teaching of reading worthy of the high place it holds in common school education, what leading objects should be kept in view? Illustrate.

28. J. B. Calkin writes that in school it should be "a primary aim to cultivate the child's taste and to direct him in such a way that he will discriminate wisely in the selection of reading matter, that he will inquire into the meaning of what he reads, and that he will remember, inwardly digest, and reflect on the ideas which he has gained." Discuss and outline a course of procedure.

29. Distinguish between criticism and fault-finding and deduce laws for the guidance of teachers.

(To be continued next month.)

TEACHERS' EXAMINATIONS.

The questions given in this department have been selected from papers used at recent teachers' examinations in several states. The answers are necessarily suggestive rather than final, tho their accuracy can be depended upon as far as they go.

New York State Uniform Examination Questions.

(Held November 12 and 13, 1903.)

GEOGRAPHY.

1. Give two reasons why it is warmer in summer than in winter.

2. Name and locate four great river systems which drain the greater part of the United States.

3. Make a sketch map of the region of the great lakes and indicate by name the lakes, the connecting water-courses, and the location of five great commercial cities.

4. What waters border on the peninsula of (a) Florida, (b) Lower California, (c) Alaska.

5. (a) In what general direction do the highlands of southern Europe extend? (b) Give the location of four mountain chains of this region.

6. (a) Of what region are the Aral and the Caspian sea the reservoirs? (b) What two large rivers empty into the Caspian? (c) Why is the water of these seas salt?

7. (a) Name three leading commercial products of South America. (b) Name and give the location of the chief export city for each product.

8. (a) Give the location of the Philippine islands. (b) Name the largest two islands. (c) Name two of the principal cities.

9. (a) By what bodies of water is the grand division of Africa separated from the rest of the eastern continent? (b) How does its coast line compare in regularity with that of the other grand divisions of the earth?

10. What waters surround (a) Manhattan Island, (b) Long Island?

ANSWERS.

1. (a) The sun's rays fall to the earth more nearly perpendicular in summer than in winter. (b) The days are longer in summer.

2. (a) The St. Lawrence river system drains the basin of the Great Lakes and Southeastern Canada. (b) The Mississippi system drains the land lying between the Rocky mountains on the west and the Appalachian ranges on the east. The Colorado system drains the southern part of the Pacific slope. The Columbia system drains the northern Pacific slope.

3. See any good geography.

4. (a) Gulf of Mexico, Florida strait, Atlantic ocean. (b) Gulf of California, Pacific ocean. (c) Pacific ocean, Bering sea, Bering strait, Arctic ocean.

5. (a) Nearly east and west. (b) The Pyrenees form the boundary between France and Spain. The Alps form the mountain center of southwest Europe. The Apennines run lengthwise thru the peninsula of Italy. The Karpathian mountains separate the highlands of southern Europe from the great plains farther east.

6. (a) Eastern Russia and Turkestan. (b) The Volga and the Ural rivers. (c) The seas are below sea level, and lose their moisture principally by evaporation.

7. Coffee; chief export city Rio de Janeiro, on the coast of Brazil. Hides and wool exported from Buenos Aires, a port of Argentina. Copper and niter, exported from Iquique, a seaport of Chile.

8. (a) The Philippine islands are southeast of China. (b) The two largest islands are Luzon and Mindanao. (c) Manila and Iloilo.

9. (a) Mediterranean sea, Suez canal, Red sea, Strait of Babel Mandeb, Gulf of Aden. (b) The coast line is more regular than that of any other grand division.

10. (a) East river, New York bay, Hudson river, Harlem river. (b) East river, Long Island sound, Atlantic ocean.

METHODS AND SCHOOL MANAGEMENT.

1. What preliminary instruction should be given preparatory to teaching children to write numbers thru the use of the Arabic notation?

2. Is much gained in teaching history when a pupil learns an event but knows nothing of the time of its occurrence? Give reason for your answer.

3. Is the maxim "We learn to do by doing" a complete truth? Give reason for your answer.

4. Mention three instances of improper use of drill.

5. There is a feeling, more or less general, that too much written work is called for in our schools. Give three valid objections that are made.

6. Name five proper incentives to be used for stimulating pupils to attain excellence in school work.

7. Name three conditions of the school-room essential to good health.

8. In teaching beginners to read, what is the first thing to be accomplished? Give reason for your answer.

9. State what benefits may be derived from the use of a well-chosen library.

10. Certain methods or devices are sometimes used by a teacher with great success for a time, after which they are no longer effective. Why?

ANSWERS.

1. Children should be taught to count up to say about twenty, and they should be able to use and apply simple processes of addition and subtraction in concrete examples.

2. Knowledge to be in any sense complete must be understood in its relation to other knowledge. Considerable may be learned of ethics and other outside subjects from learning of isolated events, but history as history requires knowledge of events in their relation to what precedes and what follows.

3. It is a complete truth so far as it goes. We do learn to do by doing, but we do not learn everything by doing. We learn from the words, deeds, and experiences of others.

4. Too much drill will destroy interest. Drill should be given only on essentials. It should be a means, not an end.

5. It is a waste of time to do so much writing. It makes unnecessary work for the teacher. It is a nervous strain on pupils because of its sameness.

6. Desire to know, desire to please parents, desire to conquer what is difficult, future usefulness to the world, wish to do well what is undertaken.

7. Good ventilation, good light, proper seats.

8. Get the children interested.

9. They are too numerous to mention. They include: Possibility of referring to books outside the regular text books; giving pupils a taste for good literature; making pupils familiar with the book world, etc., etc.

10. Pupils get tired of the same devices — something new must constantly be employed.

PHYSICS.

1. State briefly the theory of the structure, or constitution, of matter.

2. Describe land and sea breezes and state the cause of each.

3. Compare the scale of the Centigrade thermometer with that of the Fahrenheit as to (a) the making of the fixed points, (b) the relative value of their degrees.

4. (a) How is the transmission of sounds thru floors lessened? (b) What principle of physics is involved?

5. (a) Name the two metals that are considered the best conductors of electricity. (b) Will a solid rod conduct more electricity than a tube of the same diameter? (c) Give reasons for your answer to (b).

6. (a) What is a mirror? (b) Mention two kinds. (c) Give the law of the reflection of light.

7. State two laws of magnetic attraction.

8. Find the weight of six cubic feet of cork, its specific gravity being .24.

9. Define (a) machine, (b) lever, (c) inclined plane.

10. The report of a gun was heard 5 seconds after its flash was seen. How far away was the gun?

ANSWERS.

1. Matter, according to the generally accepted theory, is made up of small particles, called molecules, which are in constant motion, and which do not actually touch each other. Each molecule is made up of atoms, which are of a different character from the molecules — that is from the matter itself.

2. The surface of the land becomes warmer in the daytime than the surface of the water. The warm air rises, allowing the cooler air from the sea to take its place. This is a sea breeze. During the night the land cools faster than the water. The warmer air from the water rises, and the cool air from the land takes its place. This is a land breeze.

3. The Centigrade thermometer is marked zero at freezing point, 100° at boiling point. The Fahrenheit has freezing point marked 32°, its boiling point 212°. As a result, one degree Fahrenheit is 5-9 of a degree Centigrade.

4. (a) Sound thru floors is deadened by the use of some material of a different character from the boards, such as felt or sawdust. (b) The sound passes thru the floor in waves. The different material breaks the continuity of the waves, and thus deadens the sound.

5. (a) Copper and silver. (b and c) A solid rod will conduct more current electricity than a tube of equal diameter, probably because each molecule of the conductor is polarised; the more molecules, the more electricity. For frictional electricity the tube would be as valuable as the rod, because such electricity is given off from the surface only.

6. (a) An object whose surface reflects beams of light, used ordinarily to view what can not be seen directly. (b) Convex and concave. (c) The angle of incidence is equal to the angle of reflection.

7. Like poles repel each other; unlike poles attract each other. The force exerted is inversely proportional to the squares of the distances.

8. 62.32x6x.24=89.74 lbs.

9. (a) A production for utilising or applying power. (b) An inflexible bar movable about a fixed axis, or fulcrum, (c) A smooth horizontal surface inclined to another horizontal surface.

10. 1090x5=5450 ft.

READING.

Our fathers' God! from out whose hand
The centuries fall like grains of sand,
We meet to-day, united, free,
And loyal to our land and Thee,
To thank Thee for the era done,
And trust Thee for the opening one.
—JOHN GREENLEAF WHITTIER.

1. Quote from the above stanza a strong figurative expression.

2. In the last two lines, name the four words that should be made the most emphatic.

3. Give five words in which *ai* is used, having the sound of long *a*.

4. Give five words in which *ph* is used, having the sound of *f*.

5.-6. Indicate by division into syllables, by marks of accent and of sound, the proper pronunciation of each of the following words: *Danish, futile, Italian, industry, sesame, recommend, pigeon, cudgel, banana, equipage.*

7. What selections should be read in (a) slow time, (b) fast time?

8. What is the *orotund* and for what purpose is it used?

9. (a) Give in one or more sentences an illustration of an emphatic succession of particulars, or of an emphatic repetition, (b) Mark its inflection.

10. Name three ways of rendering words emphatic, and illustrate each.

ANSWERS.

1. *The centuries fall like grains of sand.*
2. *Thank, done, trust, opening.*
3. Brain, grain, main, bait.
4. Phonic, phial, philology, photography, phantom.
5-6. See any good dictionary.

7. (a) Slow time should be employed when the thought needs to be dwelt upon. (b) Fast time may be used to express excitement, or where the thoughts of the hearer are to be carried forward as quickly as possible.

8. The orotund is a rich, full reading tone. It is used to describe or express what is great, in nature, thought or life.

9. "O thou child of many prayers!
Life hath quicksands,—life hath snares!"
"Theirs not to make reply,
Theirs not to reason why,
Theirs but to do and die."

10. (a) Special force of voice in reading: "A thing of *beauty* is a *joy forever.*

(b) Use of exclamation: O liberty! liberty! how many crimes are committed in thy name.

(c) Rhetorical pause: "On their own merits || modest men are dumb."

(Held January 14 and 15, 1904.)

ARITHMETIC.

1. How much must be added to one hundred twenty-five thousandths to make one hundred twenty and five thousandths? Express your answer in words.

2. Find the quotient of the least common multiple of all the even digits divided by their greatest common divisor.

3. Two boat crews row a mile race. One rows 30 strokes a minute, and clears 30 ft. a stroke; the other rows 32 strokes a minute and clears 28 ft. a stroke. How far ahead will the winning boat be when it passes the mile limit?

4. Find the cost of excavating a cellar 30 ft. by 24 ft. by 9 ft. at 50 cents a cubic yard.

5. Find the amount of a note for $940 at 3½ per cent. interest, dated January 2, 1903, and due Jan. 14.

6. If a marketman so adjusts his weights as to sell 15½ ounces for a pound, (a) what per cent. does he take by fraud; (b) how much is a man defrauded who pays a bill of $75?

7. (a) Find the number of board feet in 20 joists 8x2 and 14 ft. long. (b) Find the cost of the same at $18 per M.

8. (a) What per cent. of a pound Avoirdupois is a pound Troy? (b) What per cent. of an ounce Avoirdupois is an ounce Troy?

9. Find the distance between the opposite corners of a rectangular lot 50 ft. by 66 ft. 9 in.

10. If ten men can excavate a celler 14 ft. by 12 ft. and 7 ft. deep in a given time, how many men will be required to excavate in the same time a cellar of double the length and breadth with the same depth? NOTE: Solve by proportion.

ANSWERS.

1. One hundred nineteen and eight hundred and seventy-five thousandths.
2. 12.
3. 23.46 2-3 feet.
4. $120.
5. $1.19.
6. $\left\{ \begin{array}{l} 3\frac{5}{16}\% \\ \hline \$2.48. \end{array} \right.$
7. $6.72.

8. $\left\{\begin{array}{l}\underline{75\%}\\ 109\frac{4}{7}\%\end{array}\right.$
9. 83.35 feet.
10. 36.58 men.

GEOGRAPHY.

1. (a) Distinguish between rotation and revolution as applied to the movements of the earth. (b) What circles of the earth are determined by its rotation?

2. (a) Name in order of size the four islands of the Greater Antilles. (b) What is the government of each?

3. Make a sketch map of California indicating (a) coast line, (b) principal rivers; locate its (c) capital, (d) chief seaport.

4. (a) What two rivers unite to form the Ohio? (b) What city is at the place of union? (c) For what is this city noted?

5. (a) What country of South America includes the greater part of the Orinoco basin? (b) Name the two chief cities of this country.

6. Name and give the location of four important peninsulas of Europe.

7. (a) Sketch the outline of Africa. (b) Locate on this sketch the equator and the tropic of Capricorn.

8. (a) Name and give the location of the two most productive provinces of Australia. (b) Name the capital city and state an important export of each.

9. Define (a) erosion; (b) detritus; (c) soil; (d) dunes.

ANSWERS.

1. (a) Rotation is the daily motion; the revolution, the yearly. (b) Night and day depend on rotation. Circles about the earth are arbitrary.

2. Cuba, Haiti, Jamaica, Porto Rico. Cuba, independent; Haiti, independent; Jamaica belongs to England; Porto Rico belongs to the United States.

3. (a) Personal answer. (b) Sacramento, San Joaquin and Salinas. (c) Sacramento. (d) San Francisco.

4. (a) Monongahela and Allegheny. (b) Pittsburg. (c) Iron manufacturers.

5. (a) Venezuela. (b) Caracas and Valencia.

6. Norway and Sweden, north of Denmark, east of Russian Baltic. Denmark, south of Norway, separates Baltic from Atlantic. Spain, southwestern extremity of Europe. Balkan peninsula, southeastern extremity of Europe.

7. Personal answer.

8. (a) New South Wales and Victoria. They are in the southeastern part of the island. (b) Sydney, wool; Melbourne, wheat.

9. (a) The process embodied in the forms of surface variation. (b) Loose fragments or particles of rock, whether angular or water-worn. (c) Finely divided rock material mixed with decayed vegetable or animal matter. (d) A ridge or hill of loose drifting sand.

AMERICAN HISTORY.

1. (a) What name did the Dutch apply to their territory in North America? (b) On what discovery did they base their claim to this territory?

2. (a) Name three Englishmen each of whom received a royal grant of territory and founded a colony in America. (b) State the motive for the founding of each of these colonies.

3. State the substance of a provision of the constitution of the United States that was a compromise (a) on the question of slavery; (b) between the large and small states.

4. Give the name of the man under whose leadership Quebec was (a) founded, (b) captured during the French wars, (c) unsuccessfully attacked during the Revolution.

5. Explain the terms *Hessian* and *Tory* as used during the Revolution.

6. In what year of the Revolutionary War did the British evacuate (a) Boston, (b) New York? (c) State why they evacuated each of these cities.

7. (a) In whose administration and upon whose recommendation was a

United States bank first established? (b) What President vetoed the bill for the renewal of the charter of this bank?

8. (a) What Englishman first sailed along the coast of California? (b) To what countries has California since belonged? (c) When was it admitted into the Union?

9. Give a brief account of the services of David G. Farragut during the Civil War.

10. (a) How many amendments have been added to the constitution since the Civil War? (b) Mention two results secured by these amendments.

ANSWERS.

1. (a) New Netherlands. (b) Discoveries made by Henrik Hudson.

2. (a) William Penn, Lord Baltimore, Sir George Carteret. (b) Pennsylvania founded as an asylum for the Quakers. Maryland founded as an asylum for English Catholics. New Jersey gave equal rights to all religions.

3. (a) Each state to have two votes in Senate and the number of votes in the South to depend on population. (b) A slave was to count as three-fifths of a unit of population. The trade was to be allowed to continue until 1808.

4. (a) Champlain. (b) General Wolfe. (c) Montgomery.

5. (a) Hessian was the term applied to British mercenaries who were hired of the Prince of Hesse-Cassel. (b) Tory was applied to inhabitants of colonies who supported the king.

6. (a) 1776, as the result of surrender of General Howe. (b) In 1783, as result of the treaty of Paris.

7. (a) Washington's, upon recommendation of Alexander Hamilton. (b) Andrew Jackson.

8. (a) Sir Francis Drake. (b) Spain, Mexico, United States. (c) 1850.

9. Capture of New Orleans. Bombarded Vicksburg. Port Hudson captured. Campaign against Mobile.

10. (a) Three. (b) Abolition of slavery; suffrage given the negroes.

CIVIL GOVERNMENT.

1. What is meant by (a) eminent domain, (b) habeas corpus, (c) civil service reform?

2. Mention two purposes for which (a) town taxes are levied (b) county taxes.

3. Give the different steps by which a bill introduced into the state legislature may become a law.

4. What are the provisions of the state constitution as to the lieutenant governor of this state in regard to (a) eligibility, (b) term of office, (c) salary?

5. In which branch of the state government are the officers elected (a) for the longest term, (b) for the shortest term? Give reason for such provision.

6. (a) What is the term of office of judges of the supreme court of the United States; (b) of the court of appeals of the state of New York?

7. (a) How are new states admitted into the Union? (b) How is a territory represented in Congress?

8. (a) What is impeachment? (b) Which house of Congress has the sole power of impeachment?

9. (a) In what body is the legislative authority of a city vested? (b) How are members of that body chosen?

10. What is (a) constitutional law, (b) statute law, (c) common law?

ANSWERS.

1. (a) Right of government to take private property for public purposes. (b) Right to know cause of imprisonment. (c) The movement against the spoils system.

2. Highways and support of town poor. County expenses and state tax.

3. Committee of house, printed, read three times, voted on in house; same procedure in senate, signed by governor.

4 and 5. Local questions.

6. (a) During life on good behavior. (b) Fourteen years.

7. (a) By act of Congress. (b) By one delegate, who may debate but not vote.

8. (a) Impeachment, under the constitution of the United States, is a charge made in writing by the House of Representatives to the Senate against a civil officer of the United States. (b) The House of Representatives.

9. (a) Board of aldermen or a common council. (b) By a general election.

10. (a) It is the law as laid down in the constitution. (b) The law in the statute books or codes of governments. (c) It is the law as laid down by courts.

PHYSIOLOGY.

1. How may the presence of mineral matter in a bone be determined?

2. What is meant by (a) a flexor muscle, (b) an extensor? (c) Give an example of each.

3. In the process of insalivation, what chemical change takes place in portions of the food?

4. Give the location of (a) the abdominal cavity, (b) the thoracic cavity.

5. Name, describe, and give the location of the different valves of the heart.

6. Mention some of the dangers of using alcohol as a stimulant.

7. (a) Give the location of the lungs and diaphragm. (b) Explain how the diaphragm aids in the process of breathing.

8. Mention the chief value of (a) carbonaceous foods; (b) nitrogenous.

9. (a) Describe the structure of a hair. (b) In what way do the eyelashes help to protect the eyes?

10. (a) Which portions of the tongue are most highly sensitive to taste? (b) What conditions of the mouth interfere with the taste?

ANSWERS.

1. By burning, which leaves lime.

2. (a) One that shortens and bends. (b) One that lengthens and extends. (c) Biceps and triceps.

3. Starch is changed to sugar.

4. (a) Part of trunk below the diaphragm. (b) Part of trunk above diaphragm.

5. Aur-vent, similunar, tricuspid, and mitral. Between auricles and ventricles are valves, whose upper edges are attached to the inner surface of the walls at the upper margin of the ventricle. These flaps are somewhat triangular, and have strong, white, tendinous cords extending from their edges and under surfaces to the walls of the ventricle below.

6. Destroys tissue and deranges bodily functions.

7. (a) The lungs are in the upper part of the thorax; the diaphragm is the dividing wall between chest cavity and abdomen. (b) Increases and diminishes size of chest.

8. (a) Give heat. (b) Make tissue.

9. (a) Hairs are outgrowths of the epidermis, but are deeply embedded in the dermis. They are supplied with blood at the roots and muscles. (b) Serve as curtains to keep out too strong light.

10. (a) Back and front. (b) If the mouth is dry it is difficult to taste.

SPELLING.

1 almanac
2 necessary
3 assurance
4 livelihood
5 instantaneous
6 bullet
7 pursuance
8 Roosevelt
9 reservoir
10 ambulance
11 fraudulent
12 comedian
13 apparent
14 installation
15 chastise
16 allegiance
17 assessor
18 sensitive
19 tenement
20 susceptible
21 larceny
22 transferred
23 correspondence
24 coercion
25 attorney
26 descendants
27 rebuttal
28 metallic
29 relapse
30 aggrieved
31 Venezuela
32 consummated
33 aspirant
34 terrific
35 commissary
36 appearance
37 eminence
38 tangible
39 diversion
40 pillaging
41 czar
42 chargeable
43 nuisance
44 sarsaparilla
45 assistant
46 trolley
47 occurrence
48 potatoes
49 biennial
50 unavoidable

CURRENT NOTES.

Society of Educational Research.

On February 18, the Society of Educational Research held its annual meeting in New York University. The occasion was very gratifying, and revealed a widespread interest in the purposes of the organization. Nine states and the District of Columbia were represented by members in attendance. Letters of regret were received from a number of city superintendents, principals, and college presidents in seven other states.

Dr. Addison B. Poland, the retiring president, reviewed the society's work for the past year. The secretary gave an analysis of the membership and the financial support given to the scientific investigations undertaken thus far. Dr. J. M. Rice, the director of the bureau of research, maintained by the society, presented an outline of his work, and a summary of the conclusions to which he had been carried by it, as regards the chief problems of public education. He also described the details of the plan followed by him, in tabulating the data gathered by personal investigation. An abstract of his talk will be published in these pages at a later date. Professor Thorndike, of Teachers College, spoke vigorously upon the possibility and plans of testing the results of the teaching of geography.

Prin. William McAndrew, of the Girls' Technical High school, Manhattan, was elected president, and Supt. W. H. Elson, of Grand Rapids, Mich., vice-president. The appointment of Dr. J. M. Rice as director of research was made permanent. Ossian Lang was re-elected secretary and treasurer. Dr. Poland, Supt. Charles W. Deane, of Bridgeport, Prin. O. P. Cornman, of Philadelphia, Supt. Henry Snyder, of Jersey City, and Supt. Randall Spaulding, of Montclair—were chosen members of the executive committee for one, two, three, four, and five years respectively. A fuller report will have to be deferred till after the Atlanta meeting of the Department of Superintendence.

Text-Book Royalties of Teachers.

Controller Grout is working hard to humiliate Dr. W. H. Maxwell, superintendent of the schools of New York city. Various investigations have been set on foot, many of them laudable in appearance, to prove the latter unfit for continuance in office. It must be borne in mind that the superintendent's term of office is drawing to a close and an election is near at hand. One result of the personal attack is a text-book bill introduced into the state senate prohibiting New York city teachers from receiving royalties upon such books written by them as are used in the local public schools. The bill is of course directed primarily against the head of the school system, but its effect will be a severe blow to a number of the most efficient teachers in the system.

It would be a serious mistake to dissuade qualified and ambitious teachers from writing text-books. The schools can only be benefited by the special efforts these teachers devote to the cause of pedagogic improvement. Every encouragement should be given to render the experience of the most efficient available to all. The United States government found long since that it was a short-sighted policy to prevent employés from utilizing their spare time in making contributions in the shape of patented improvements or copyrighted books. It seems that the navy department forbade, at one time, the acceptance of royalties from inventions by officers under its jurisdiction. The result was a barrenness of new ideas. The government was the loser.

The teacher who makes the special studies prerequisite to the writing of an acceptable text-book upon any subject, becomes himself a better teacher by reason of these extra efforts. The school system is benefited in proportion to the improvement of the individual teachers. It is a rule of wisdom, therefore, to lend every encouragement to the making of these extra efforts. Indeed a city itself could well afford to pay a royalty to every teacher who has produced a needed text-book. The bill passed by the New York state senate, depriving such teachers of all expectation of reasonable compensation in the shape of royalties is a piece of intellectual myopia, if not sheer perversity.

There is some show of justice in the suggestion that those charged with the selection or introduction of text-books should not be allowed any royalties from sales influenced by them. In other words, it is not unreasonable to forbid the buying of an author's books, by the author, with the money of a school community for his personal emolument. For it is possible that a publisher may issue a book because it will sell in sufficently large orders by reason of its author's control of a purchasing machinery without reference to the intrinsic quality of that book. But the most extravagant stretching of the limit contained in such a suspicion cannot cover the case of a subordinate teacher who has produced a book. This teacher has no final voice in the adoption of books. Usually the board of education, the superintendent, or both in conjunction control the buying of books. If a teacher's product is chosen the inference is justified that it is an exceptionally good book. A prophet here as elsewhere is not apt to be unduly favored in his own town. The adoption of his book by his superintendent and board may usually be taken as argument sufficient to prove its helpfulness.

The lay world considers teachers as a class unusually sensitive and even techy. Let us hope, let us pray, that this criticism is unjustified. In the present salary agitation it is particularly important that no peevishness should weaken the really strong arguments teachers have on their side.

Partial List of Contents Planned for April Educational Foundations.

Departmental Teaching.

C. B. Gilbert.

Herbert Spencer:

His Contributions to Philosophy.
Extracts from Spencer's Essay on "Education."
Questions upon Spencer's "Education."

Tolstoi's Educational Views,

J. Hunter Smith.

The Play Instinct of Children.

Social Forces in Public Education,

Supt. W. H. Elson.

The Remuneration of Teachers,

William McAndrew.

Methodology: The Use of Illustrations in Teaching.

John Adams.

Old Greek Life:

Birth and Treatment of Infants; Toys and Games for Children; Greek Education generally; School and Schoolmasters; Gymnastics; Customs on Coming of Age.

Encouraging Words from Appreciative Readers.

Supt. J. Fairbanks, of Springfield, Mo., City Schools writes, "Educational Foundations is filled with good things. We think it very superior. The School Journal is no whit behind it. It contains the very cream of good things. I most heartily congratulate you on your success in getting up masterpieces for teachers. Go on with your good work. If you do not reap your reward in this world you will in the next."

It seems to me that Educational Foundations are better this year than ever before, and I have taken them since their first issue. Of all the educational periodicals that come to my table this little magazine is, probably, the most helpful to me. Charles C. Roberts, Prin. P. S. 25, New York City.

I take this opportunity to say that I think the Educational Foundations is the best thing for the teacher or superintendent who would be a growing man in the profession. A Maine Superintendent.

An influential teacher in the South writes, "I have some classes in education this year and as the course in Educational Foundations is so very good I advised them to subscribe. I cannot say too much in favor of your educational papers. I believe it is mostly due to the strength I received from your course mapped out for the educational class of last year and year before last that I am enabled to instruct a class in education now, myself. I have been a subscriber to three or four of your papers for more than ten years. While I have read others, I have received more real solid help from yours."

James K. Beck, Superintendent of Bloomington City Schools, Bloomington, Ind., says: "I find Educational Foundations suggestive, substantial, and helpful."

Supt. Fred. L. Thompson, of Macon, Macon Co., Mo., says: "Educational Foundations is superior to anything else I read."

I am a subscriber to a number of educational periodicals, and while I concede the meritorious features each possesses, I must concede that Educational Foundations is preeminently at the head of them all. Its treatment of educational questions is philosophical; the true pedagogic principles underlying and permeating every subject it discusses, so that the reader is impressed with every line he reads. He cannot fail to reach profitable conclusions regarding the great aims of the profession of the teacher—what this is, and what it can accomplish under proper conditions.

If a teacher has no ideals to prompt and guide him in his profession I believe that Educational Foundations will lead him into possession of some, as it is hardly possible to read it without feeling a new inspiration for professional progress. J. F. Curran.

Sheridan, Montana.

Supt. Nye, of Lancaster, Wis.: "I am much pleased with the improvement in Educational Foundations, and hope to see the magazine in general use among the teachers of the county."

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Contents for April, 1904

A Good Urban School Organization.
Charles W. Eliot - - - - - - 557

SCHOOL ADMINISTRATION

Departmental Teaching. Chas. B. Gilbert 568

COURSE OF STUDY AND METHODOLOGY

Scientific Education. Thomas Huxley - 575
Illustrations. John Adams - - - 580

EDUCATIONAL CLASSICS

Extracts from Herbert Spencer's Essay on Education - - - - - 585

CHILD STUDY

Aids to Girl Study. William McAndrew - 589
An Experiment in Child Study in the State of Maine. W. W. Stetson - 594

CLASSIC ANTIQUITY

Life in Ancient Greece. III. J. P. Mahaffy 605

HISTORY OF ART

Roman Art. II. Francis C. Turner - - 616
TEACHERS' EXAMINATIONS 629
EDITORIAL NOTES. 634

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Educational Foundations

OSSIAN H. LANG, Editor.

Vol. XV., APRIL, 1904. No. 8.

A Good Urban School Organization.*

THE question as to the best organization of an urban school system forms the most important subject in education now under discussion before the American people, because the people are coming to live in cities, and the urban schools will henceforth educate a large proportion of American children. The problem is how to manage well the public schools of a great city. In what I have to say upon this subject I shall confine myself to things which have actually been done in our country. I propose to report to you how a good urban school system might be planned, organized, and carried on, because experience already shows what the elements of a good system are, and how they may be successfully combined and carried into practice. I propose to stick close to facts already established.

Constitution of the School Board.

The fundamental question is the constitution of the school board. How should a board of education be constituted? In general, the school committee or board of education in American cities to-day is the outgrowth of conditions which existed when the cities were small towns. The small-town method, of course, fails to work well, as is perfectly natural.

NUMBER OF MEMBERS.

Let us start with the question of how many persons should the board of education consist? In the first place, it should unquestionably be a small number. To my thinking, the perfect number is seven. Let me use an actual case in illustration, for I want to deal with facts, with things achieved. I have belonged for thirty-five years to the oldest educational board in this country, the prime governing board of Harvard university. It is called "The President and Fellows of Harvard College." It consists of seven men, and I believe I am justified in saying that its achievements commend it as a safe example to follow. It has had more than 250 years of successful experience, and the results of its labors are in plain sight. It is better to have an odd number of members, because as

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*Address delivered January 16, 1904, before the Public Education Association of Philadelphia. Adapted for EDUCATIONAL FOUNDATIONS from the Philadelphia *Teacher*.

a rule the deciding number is larger by one when the number of members is odd. A satisfactory board can undoubtedly be made up of seven, nine or eleven men, because we already see good boards organized with those numbers. Seven is ideal, because seven men can sit around a small table and talk business in a conversational manner. A small board can talk together in a quick, simple, direct way with absolutely no speeches, and no talking to the gallery or to reporters, — just plain business talk with specific proposals in view, and under the guidance of a chairman who knows the business and urges it on.

SELECTION OF MEMBERS.

How should this small board be selected? There may be cities in which appointment would be safer than election, because the method of election has long been used with bad results; but I should say that, in general, slow replacement by election at large had proved to be the safest and most acceptable method. We have had various experiences on this subject in our country, but out of them all has emerged this best way — election at large, one member at a time or two at a time, and each member re-eligible once, but not more.

TERM OF SERVICE.

If we imagine a board of seven men, in a city where municipal elections take place every year, one member will be chosen every year, and each man will serve seven years, and be re-eligible for another term of seven years, making fourteen years of continuous service. Then should come a break in the member's service. The break is expedient, however much the city wishes to re-elect a man whose services have been very valuable. The members should be, on the average, men of experience in the particular business of the board; and that result will be secured by the long term of service. It may be desirable to re-elect a man for a third term, but there should be a break of at least one year before he is so re-elected.

QUALIFICATION FOR MEMBERSHIP.

What sort of men should be members of this board? There should be no salary paid. The time and labor of the members are to be given freely to the children and the city. Clearly, then, only men of public spirit should be chosen. Public spirit is the very first qualification for membership in a board of education; and the next qualification is judgment or good sense. How can this quality be secured? It can be secured by selecting only men who have been distinctly successful each in his own walk of life. Success in whatever honorable business a man has undertaken is evidence that there is good quality in the man. Next, he must have some appreciation of the importance of the office to which he has been elected, some conception of the magnitude of the task, and of the far-reaching effects of the service he can render. This ordinarily means — there will of course be exceptions — that he must have children or grandchildren of his own and a love for children; and that he must have some vision of the splendor of the work. That is the kind of man the school board needs. His quality is obvious. What chance has a city of getting one or two such men a year by election at large? That will depend on the good sense and good feeling of the voters, and on the existence of some disinterested nominating body.

ELECTIVE METHOD TESTED BY EXPERIENCE.

There is a possible alternate to the method of election at large, namely, appointment by the mayor or by the judges, but election at large is preferable to appointment, because the mayor would probably appoint political partisans, and the judges ought not to have such a function imposed upon them. I appeal again to experience. There is a school board, organized on the principles I have described, which has been in successful operation for several years— the St. Louis Board of Education. It is larger than one would wish. It numbers twelve men, elected biennially, four at a time. I believe it to be the best Board of Education in the United States. It has demonstrated its high quality, and has worked well in practice. I, therefore, feel that the method of election at large in small groups has borne the test of experience.

The Board's Resources.

The next question in regard to the urban school system is that of resources—how much money shall it have, and on what plan shall its money be raised? Next to the quality of the school board, that is the most important question of all.

APPROPRIATION OF FIXED PERCENTAGE OF TOTAL VALUATION.

There is a best way, namely, to appropriate by law to the use of the board a certain percentage of the city's total valuation for purposes of taxation. In some of our cities taxes are levied on real and personal property, in others only on real property; in either case the legislature must fix the percentage. How adequate the results will be will of course depend on the discretion of the legislature. In the State of Missouri, the legislature lately raised the amount of school money for St. Louis from four mills on each dollar of valuation to six mills at a single blow; that is, they added fifty per cent. to the income of the school board of St. Louis by a single act. Now, that is a remarkable performance on the part of a state legislature, and an extraordinary proof of the confidence of the legislature in the efficiency and honesty of the board. The act was passed because the board had demonstrated its ability to use the additional funds judiciously. It had proved its worth. The school board of St. Louis in the first year made use of only one of the two additional mills.

ADVANTAGES OF THE METHOD.

Now, what are the advantages of this method? The board knows that the valuation of the city increases from year to year, and that the annual increase can be predicted with a good deal of exactness. They can look ahead, and say, "Next year we shall have so much, the year after so much, and so on." They can predict their own resources. It is indispensable that the annual resources of the schools should grow with the growth of the city and of its taxes. When in one of our great cities sixty thousand children were unable to find room in the schools one September, except to attend partial sessions at abnormal hours, the board could only say, "We did not know how much money would be at our disposal. We could make no plans in advance." In this respect, St. Louis has given us an admirable example. Knowing the number of children they would have to accommodate in the schools, and knowing the districts which population is leaving, and the districts which are filling up, they set about buying school-house sites in the suburban parts of the city while land was cheap. They said, just as a private individual says, "There is a cheap bit of land fit for my uses. I will buy it now, because I know I shall need it later." They are always on the alert.

This shifting of population is characteristic of American cities. They are all liable to lose population at the center, while suburban districts are becoming more thickly populated all the time; therefore, school sites should be bought outside of the city, directly in the path of the outflowing population, and should be bought before the price of land has risen. Centers of habitation change; but the schools do not move with them. Yet these phenomena can be predicted, and our school boards should be able to act with this sort of foresight.

NEEDS CAN BE ANTICIPATED.

If the school board were not dependent on Councils, but had its own financial department and its own resources, it could anticipate its own needs. Whatever form of school board be set up in an American city, it will not be able to do its work well unless it can predict its income. Knowing its income, a board can say, "It costs so much to maintain the schools we have; next year there will be so many more children, and so much more money at our disposal. We can build two manual training high schools within two years, and three new grade schools a year in the suburbs." There will always be growing funds to meet growing needs.

Functions of School Board.

The next question about a school board is what its functions or duties should be,—what it should undertake to do. The ideal board of seven men should, in the first place, decline all executive service. Nothing executive should be within their functions. It should be their work to determine the general policy of the school system. They should make and fill their own executive offices, direct expenditures, and settle questions that arise in the carrying out of their policy. I know by experience that these occupations would be quite enough for any board of education. They would take as much time and thought as an unpaid board should be expected to give to the city.

This limitation of function would be a new departure for most American cities. Most school committees attempt to perform executive functions thru sub-committees on high schools, books, supplies, teachers, janitors, and so forth. Thus, Boston has a school committee of twenty-four members, which divides itself into numerous sub-committees, all of which attempt executive functions. This is the traditional method. Now, it is obvious that even a well-chosen, fortunately constituted school committee will probably contain no experts on these difficult matters. Let us take the average sub-committee on books as an example.

The sub-committee on books ought to know what books are used in the schools, what better books are needed and why, and what books are on the market. They ought to be able to understand the wishes and needs of the teachers in regard to the books they are forced to use. I should think a city unusually fortunate whose sub-committee on school books consisted of a banker's clerk, a blacksmith, and a wholesale grocer, none of which estimable callings can be said to fit a man for the difficult function of selecting text-books for schools. It would be as rational for a city to confide to such a committee the building of a bridge, or the laying out of a park, or the superintending of its hospital. In these days all executive work should be in the hands of experts. The man who ought to direct the purchasing of books for a city's schools is the man who comes in contact with teachers, school children, and school books every day of his life.

Executive Officers of the Board.

The first duty of the new school board is to appoint its chief executive officers. How many should they be? St. Louis has shown the way. There should be four executive officers: first, a superintendent of instruction; secondly, a superintendent of buildings; next, a superintendent of supplies; and lastly, a superintendent of finance and accounts. Each of these officers should report to the board at frequent intervals and should prepare an annual report of his work to be printed and distributed to the public with the annual report of the board itself. I need not say that every man should be an expert, who understands thoroly the particular business he is going to do. St. Louis has had several years' experience of this system, and its good results are conspicuously in evidence.

RESPONSIBILITIES OF SUPERINTENDENT OF INSTRUCTION.

Let us first examine the functions of the superintendent of instruction. The organizing of the twelve grades of instruction is an exceedingly complex piece of business; it requires thousands of teachers, who should be selected, promoted, and dismissed by the superintendent. Of course, the superintendent should follow some public method of selection and promotion that can be clearly described and explained. He will naturally appoint examiners of new teachers, and inspectors of teachers at their work. Local means should be provided for training young teachers for service in the city's schools. There should also be a well-understood method of consulting principals about appointments and promotions; and there should be long probationary periods for young teachers.

To maintain a large corps of teachers in alert and vigorous condition a system of retiring allowances is essential. The American pension system for soldiers and sailors has been so exaggerated and wasteful that many people distrust the pension method in civil employments; yet the value of the pension system has been demonstrated in city fire and police departments, in railroad systems, in the judiciary, and in the best universities of the country. A pension system not only promotes efficiency; it is more economical than the prevailing method of keeping disabled teachers in service at full pay.

The construction of programs of study for all grades of a school system is another function of the superintendent of instruction, a function which calls for a broad knowledge of the whole field, an intimate acquaintance with many details, and a rare mixture of ingenuity and good judgment. A good superintendent will know how to secure the loyal coöperation of his teachers; for the best program may be defeated by indiscretion or bad faith in executing it.

Finally, the superintendent should be responsible for the tone or temper of the school discipline in all grades, for its gentleness, firmness, elasticity, and steadiness. To find a man fitted by natural gifts and appropriate experience to discharge these functions will be the most difficult task of the board.

THE SUPERINTENDENT OF BUILDINGS.

The next executive officer should be a superintendent of buildings, new and old. This officer should give his whole time to the service of the board, and should have been an engineer or architect by profession. Altho all the American cities and large towns have been building school-houses with great activity during the past thirty years, the common stock of knowledge on the subject seems still to be small. There is much yet to be learned about fire-proof and slow-burning construction, and the best means of heating and ventilating a building divided into numerous rooms of moderate size. Large school-houses are still built with halls and stairways which are far from fire-proof, and gross over-heating is very common. The officer who should have general direction of the repairs and improvements of school-houses and of the construction of new school-houses would have his hands full.

Great improvements have, of course, been made within fifty years. When I was a boy at a Boston public school, ventilation was hardly thought of as a thing desirable for a school-room; but to-day satisfactory apparatus for heating and ventilating a large building divided into small rooms can hardly be said to exist. I know that Harvard university has not solved the great problem of heating and ventilating. More than $50,000 has been spent on the heating and ventilating apparatus for two of our buildings, of which expenditure a full third has been absolutely thrown away. I cite this experience to illustrate the fact that the superintendent of buildings of a large urban school system would have a very serious charge, requiring experience, habits of observation, and the disposition to attack vigorously new problems. A building contractor would not answer the purpose; neither would a man trained to any other business than engineering or architecture. This is emphatically the place for a broad-minded expert.

THE SUPERINTENDENT OF SUPPLIES.

The superintendent of supplies would be the next executive head of a large department. For a well-conducted urban school system a great variety of supplies is now indispensable, such as books, writing-books, drawing-books, maps, models, prints, photographs, lanterns and lantern slides, and stationery of all sorts. If school gardens form a part of the city's equipment, a special sort of supplies will be needed for them. If manual training has been properly developed in all the schools, the peculiar apparatus needed for teaching that subject will be always in need of repair and replacement. If the city supports mechanic arts or trades high schools, the mechanical equipment of those schools will be exceptional and difficult to maintain in full efficiency. If the school-houses are used, as they should be, for evening schools and as centers of social improvement and pleasure, these extensions of the school-houses' serviceableness will demand considerable supplies of various sorts. There should be a lantern and a considerable collection of lantern slides in every school-house, and in every school a teacher who is capable of using the lantern. The selection of the books to be used in a city's schools is in itself a very important and difficult function; for it is the custom to provide teachers and pupils with books in large number and variety, both for use in the school libraries and for the daily use of the pupils at school and at home.

The superintendent of supplies will need in all his work the direct advice of the teachers in the schools. Without such consultation it would be impossible for the most skilful man to do his work to the best advantage. This leads me to say that, in general, the teachers should be much more consulted by the executive officers of the school system than is now commonly the case. I know that my own functions as president of Harvard university could not be properly performed without constant consultation with the professors and other teachers, and frequent intercourse with the promising young men who year after year enter the University faculties. Every school principal ought to have a faculty of his own with which he statedly consults. In such a school faculty, there would naturally be sub-divisions by departments of instruction. Thus, all the teachers of history would naturally associate themselves together in consultation over the needs of their department; and the opinion of each department about the books to be used and the supplies needed would deserve careful consideration.

The superintendent of supplies would have charge of the service of all the schools. He would be responsible for the purchase of fuel, and he should, therefore, control the engineers and janitors who spend the fuel. Here again, he would need to keep in touch with the teachers, because their health and comfort depend very much on the intelligence and success with which the work of the engineers and janitors is done.

MEDICAL INSPECTION OF SCHOOLS.

I have now spoken of three executive departments—instruction, buildings, and supplies. The subject of medical inspection of school children touches every one of these departments. The bodily condition of the children affects deeply the discipline of the schools, the regularity of the children's attendance, and the rate of promotion; and these things belong to the department of the superintendent of instruction. A child may be pronounced stupid when he is really suffering from some chronic physical evil, which a competent medical inspector could detect and possibly remedy. Thus, a child may have astigmatic eyes, and in consequence suffer greatly from headaches, and be quite unable to keep up with his mates; or he may be suffering from adenoid growths in his throat or nose, which make him appear dull and inattentive, or actually make him deaf and so apparently heedless. By thoro medical examination of each and every pupil, many children can be rescued from these sufferings and made capable of normal school activity. By frequent medical examination the children may be saved from preventable maladies and from being unjustly blamed. Frequent inspection may also prevent the spread of infectious disorders. The health of the school children is all-important to the success of the teachers' work, and is, therefore, emphatically the business of the superintendent of instruction.

The superintendent of buildings has also a strong interest in the health of the children. He is responsible for the air they breathe and for the temperature in which they work; and he can be greatly aided to do his own work well by medical inspectors who report the temperature of the school-rooms and the condition of the air therein. Again, the superintendent of supplies has a similar interest in the frequent medical inspection of the school-houses. He, too, can get from the medical inspectors much important information about the results of his own work, and about the health precautions which should be taken in the interests of the children. Thus, the disinfecting of the books which are transmitted year by year from one set of children to another is a matter on which medical advice is valuable.

Again, if meals are supplied in the school-houses, medical opinion should be obtained as to the selection and quality of the provisions. Luncheon in schools has more importance, now that one long session instead of two short sessions has been so generally adopted in the higher grades of the public school system.

The care of the eyes of school children is a matter that should be much more insisted on than it is. If the eyes of a considerable portion of the school children suffer damage during their school life, the industries of the entire people will be inevitably impaired, for good eye-sight is well-nigh indispensable in the principal trades and occupations.

Medical inspection thruout a city school system is thus to be advocated on economical grounds as well as for philanthropic considerations.

SUPERINTENDENT OF ACCOUNTING.

The fourth expert executive officer to be employed by the board will be the superintendent of finance and accounting. He would have charge of collecting all the receipts of the school system and of paying the bills for all its expenditures. In some cities endowments have been provided for the benefit of the public schools, and the income of these invested funds makes part of the resources of the school system; but the great resource would be the taxes, determined by the laws under which the school system is carried on.

To estimate, collect, and keep account of these resources would be part of the function of this fourth executive officer. He would also pass upon and pay all salaries, wages, building accounts, and bills for supplies. Every outgo for the schools would pass thru his hands. It is obvious that a highly competent officer would be needed for these duties.

EXECUTIVE OFFICERS' TERMS OF SERVICE.

The terms of all four of these expert executive officers should be long. The American likes a long term, and his moral quality is favorably affected by long-continued service. The American community also pays more consideration to a long-term official than to one who has but a short tenure. Thus, in those states which elect their judges, it has been found expedient to elect for long terms, because the serviceableness of the judges was thereby greatly increased. Moreover, in the four offices which I have been describing, conscientious and able men would become more and more useful to the community as years went on. They would gain both knowledge and influence by continued experience in their several offices. The first appointments to these offices might well be for a short term of years, but after satisfactory probation the tenure should be during adequate performance of duty.

Success Attainable.

The principles on which this organization of an urban school system is based are simple, and they rest on human nature itself. They seek to apply, for the benefit of schools, well-known mental and moral qualities of rational, conscientious men and women.

The conditions for a favorable solution of the city school problem are by no means unattainable; indeed, they have actually been attained in good measure. None of us would have supposed six years ago, or indeed this year, that St. Louis was a particularly promising field in which to labor for municipal reform; but to-day St. Louis possesses the best organization of a public school system in this country.

Relatively to our hopes and our aspirations the public school system in the United States is a disappointment; but absolutely the public school systems of our great cities have done a great work, and by comparison with other branches of public service are the most successful of our American institutions.

I have lately been making a limited inquiry into the success of the public schools compared with that of the endowed schools and the private schools, the investigation being entirely confined to results obtained in Harvard college. This is a limited field, but a representative one, for Harvard college is recruited annually from about two hundred schools and colleges scattered all over the land. About thirty per cent. of the young men who enter Harvard college year by year come from public schools. Now the public school boys, on the whole, pass better examinations at admission than the boys from the endowed and private schools. And how is it at graduation three or four years later? Do the public school boys hold their own in college down to the period of graduation? I find that at Harvard university the students who come from public schools graduate with somewhat higher standing than those who come from endowed and private schools. The honors are still with the public schools. I believe that similar results would be obtained from like inquiries at other American universities. From every point of view the outlook is hopeful. Let us continue planning how to make better the work of the most serviceable of all American institutions.

President of Harvard University. CHARLES W. ELIOT.

The danger of political partisanship in the board of education is not fully removed by a general election. Nominations by party bosses are not necessarily of a higher order than appointments made by the mayor. On the other hand, the mayor may give to his city as fine a board as Baltimore has, for example. But tempting as this example may be, election by the direct vote of the people is best. It is justified by Anglo-Saxon principles of procedure, and thoroly in harmony with the national spirit and with American institutions. (A plan for removing "politics" as much as possible from the nomination of candidates for school board members is suggested by the editor, on another page.)

SCHOOL ADMINISTRATION.*

Departmental Teaching.

THE phrase "departmental teaching" has come to have a technical meaning as applied to elementary schools, so that most teachers readily understand it without further definition. It means the abandonment of a plan which has generally prevailed in the elementary schools of this country, under which the class-room teacher has given instruction to her class in all subjects required for the grade by the curriculum, and the substitution therefor of a system of special teachers who give the instruction in their particular subjects to the pupils of several classes or grades. This is nothing less than the extension of the plan of the college down thru the secondary school, where it already largely prevails, into the elementary school.

As to the limits of this extension in the elementary school, there is no unanimity of opinion among the advocates of the plan. Some would include all of the grades above the very lowest primary within its sweep. Probably the majority would stop with what are known generally as the higher grammar grades, that is — the highest two or three grades of the grammar school. In many private schools practically all of the instruction above the kindergarten grade is special, and I have seen a certain amount of specialization in public schools as far down as the third year of the school course.

There is also a wide difference of opinion among the advocates of departmental teaching as to the extent of the specialization. Some would include all subjects, that is — would have special teachers of reading, special teachers of arithmetic, of geography, and so on thru the entire curriculum. Others would have specialization only in those subjects that are supposed to be very difficult and to require higher technical knowledge, such as geography and history, and others still would group the subjects according to some real or imaginary correlation.

The machinery, too, by which the various plans are to be carried out differs in various places. In some a very highly developed and fully organized scheme has been worked out, and in others the very crudest arrangements exist. Sometimes the teachers move from class to class to teach their subjects to the pupils. Sometimes the pupils move from room to room where the teachers of the different subjects are located. In a number of places buildings have been constructed especially for departmental work. The plan of these generally has been the grouping of small recitation rooms about large study rooms. But while there are all these differences in administration, the various advocates of departmental teaching agree in the main as to their reasons for favoring some plan of specialization in elementary teaching.

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On the other hand, there are many teachers, and among them many of the most thoughtful, who are not at all impressed with the advantages claimed for departmental teaching, and insist that the time-honored and prevalent plan of the single class-room teacher is better.

It is my aim in this articles to state the principal arguments both for and against departmental teaching, and to give my own conclusions and the reason for them. The great argument advanced by all friends of specialization is that you secure better teaching; that the teacher who teaches a single subject is able to master it and become really, or approximately, a scholar in his own particular field, which is practically impossible for the teacher who has to prepare daily for a great variety of subjects. A teacher of history, for instance, may become a thoro and exact student of history, and may bring to the class an enthusiasm for the subject and a knowledge of its details which no class-room teacher, obliged to teach a dozen different subjects a day, can possibly attain, and as a result the children are likely to have a wider and better view of the subject and a greater interest in it and are more likely to become readers and students of history themselves afterward, because of their contact with an enthusiast and a scholar on the subject. This argument is applied to all of the different subjects of the curriculum, and with much apparent force.

It is undoubtedly true that the teacher who teaches one subject only will secure, at least for a time, a greater interest in the subject, and will quite likely know more about it than the one who teaches several subjects. As a sort of corollary to this, it is claimed that the subjects will be pursued with greater thoroness, which may be true. They are certainly likely to be pursued further along certain lines. It is also claimed that this plan furnishes an opportunity to the teachers to become specialists, that is — to assume a higher professional position, and also to follow and develop their own aptitudes. It is taken for granted that in dividing up the corps of teachers of a school according to subjects, personal tastes and personal ability will be considered, that is — the teacher who is most fond of history and can teach it best will be likely to be given history rather than mathematics, and that this arrangement will encourage the teacher to become still further a specialist in his subject.

A further argument is that departmental teaching brings the children into contact with a variety of minds at the same time, which is broadening; that if a child is subject to the influence of only one teacher for a length of time, his mind becomes unduly influenced by that of the teacher, if the teacher is a strong one, and if the teacher happens to be a weak one there is no relief whatever from his bad influence. Doubtless this is a strong argument. The child who happens to be placed for a year in the class-room under an inferior teacher who teaches badly practically all the subjects, is undoubtedly a sufferer, whereas it is scarcely to be supposed that all of the teachers of the different subjects in one year will be bad, and so the pupil is sure to come under the influence of one or more good minds and to have any tendencies to one-sidedness removed by coming into contact with many men of many minds.

As evidence of the force of all these arguments, their advocates point to the teachers of the college and high school, who are practically all specialists, where often great enthusiasm is aroused in the individual subjects that they teach. This side of the question scarcely needs further elaboration, and may be summed up in a very few phrases: more highly specialized teachers, hence better teaching; hence greater thoroness, and also the broadening of the minds of the children by contact with the minds of various teachers.

On the other hand, the advocates of the prevailing system of class-room instruction deny most of the claims of the friends of specialists, and while they admit some of the advantages, they claim they are more than over-balanced by the disadvantages. One of the most serious indictments of the departmental system is that it is destructive of the best qualities in teachers. This at first glance seems unreasonable, and it is certainly a direct contradiction of the claim of the advocates of the system.

But let us consider it. The best teacher is not necessarily the one who knows the most about his subject, tho of course a thoro knowledge is desirable. In particular, the best teacher is not the one whose view of life is limited by his subject. A true knowledge of any subject involves all of its relations. It cannot be denied by thoughtful observers that the teaching of one subject, and especially of one phase of one subject continually for a series of years is destructive of the best mental caliber. Even in colleges, where the higher and broader phases of the different subjects are taught, it is proverbial that the professor becomes in time narrow and out of touch with the world. If he is a real teacher he must consider his subject and its relations to the class. This of itself limits him to certain elementary phases. If this is true of the college teacher, it is emphatically true of the elementary teacher, who is dealing constantly with inferior minds, and who must modify the subject-matter of his department so as to adapt it to infant mastication. He inevitably in time takes a small and narrow view of what he is teaching. There is nothing in his work to broaden him, nothing even to broaden his interest in his subject. He has to gather a certain limited amount of knowledge of a single subject into condensed and palatable form and present this to children. This almost unavoidable effect of teaching a subject has never been more beautifully or pitifully described than in Charles Lamb's "Schoolmaster."

In a previous article I endeavored to emphasize the superiority of the man to his shop, and to call attention to the fact that it is only by constant effort and by dealing with continually broader influences that the individual can avoid being absorbed by his shop. Now the smaller the shop and the littler the thing with which one works, the more difficult is it to keep alive the spirit of true manhood and the right kind of interest in life. I can conceive of few things more deadening to the higher intellectual life than the teaching of some one subject year after year and day after day to children. For the first year or two after the introduction of departmental teaching into schools there may be evidences of brighter work, but wait a few years until the deadening effect of the limited field has become evident in the teachers. First is sure to come a loss of interest in the subject-matter as taught, then a loss of interest in teaching. The same subject is gone over year by year, vastly more knowledge has been arrived at by the teacher than can possibly be used in teaching in elementary schools, and so the teacher becomes a mere routine teacher, having nothing in his work to stimulate ambition.

The corollary to this is a lack of breadth in the teaching. There may be a certain sort of narrow thoroness, that is — certain details may be pursued to considerable lengths, but that kind of breadth which comes from relating the subject continually to every phase of life is gradually dropped out as the teacher becomes more and more absorbed in the special phases of his limited field.

It seems to many, and I suppose I am among the number, that this argument alone is sufficient to condemn departmental teaching in elementary schools, because there is nothing so precious in all our school systems as the spirit of professional zeal and pride in the teachers resulting in their constant growth, and consequently nothing could be more serious than such an arrangement as will of itself unavoidably in time kill all of this.

I may be emphasizing this point unduly, but it does not so seem to me, because we must not forget that proverbially the teacher of all grades is looked upon as one ignorant of the world and is held in a sort of toleration and admiring contempt by the practical man of affairs. And we teachers must admit that this judgment is not altogether devoid of justice.

I have referred to the ignorance and self-satisfaction of the average college professor, and his utter unfitness to deal with the problems of life. The complaint is quite general that the modern tendency toward specialization in colleges is making teachers of subjects rather than teachers of youth, and that the old-time college professor who was found here and there in all of the older colleges, — a man of broad culture, of many interests, able by the greatness of his personality to influence youth, is disappearing before the man who knows his Greek enclitic and his theory of curves perfectly.

We all admit sadly that these strictures upon the teaching profession are more or less true, and that the most dangerous feature is the entire consciousness of this on the part of teachers themselves, — their complete and smug satisfaction with themselves and their limited field of knowledge.

If this is so true of college professors as to be generally noticed even by the unobservant, how sadly and emphatically true it would be of our elementary school teachers if they were to be limited in their work to the instruction of youth in the simplest rudiments of some one subject. I believe most profoundly in the truth of this argument, and would urge upon all teachers to fight strenuously against the narrowing influences of the little life consequent upon teaching one subject. I would rather have teachers teaching children, with many interests and a wide outlook, even if their knowledge of this or that subject is limited, than men or women who know their subjects, at least so much of them as it is necessary to know in order to teach young children thoroly, but who haven't the wide outlook which general culture gives. I believe in culture as opposed to special knowledge for general educative purposes even in college, but infinitely more so in elementary schools.

Another serious objection to departmental teaching is its interference with that correlation of school subjects which is not only proper but necessary in elementary education. Not only theory, but experience, shows that the teachers of special subjects are always so impressed with the importance of their subjects that they overlook the value of all-around development for the children. Each one pulls his own way and the strongest teacher gets the most work, while the child is likely to get an altogether one-sided and false view of the field of knowledge as it is presented to him.

Take what view we may of the various schemes of correlation which have prevailed at different times in our school systems, all thoughtful teachers admit the importance of the recognition of the unity of life and the unity of knowledge in elementary teaching. The only reality is found in relation, and this needs to be impressed upon children from the start. Especially such subjects as the language subjects need to be taught in connection with those which furnish the raw material. This becomes practically impossible under the departmental system. The teacher of language is almost sure to teach with sole regard to the formalities of speech, the rules of grammar, and that dead and deadening technique which has been fatal in our elementary schools. Instead of teaching language by its use for the expression of thought, stimulated by the other subjects of the curriculum, it is taught as a thing apart, with neither posterity nor offspring. The same objection applies to those other subjects which are naturally related in school as in life. Proper correlation in elementary schools is almost impossible under departmental teaching.

There is a further argument for the pupils solely, which, to my mind, is sufficient to condemn the plan. The unity and the saneness of school life are destroyed by it. We must not forget the often repeated dictum " School is life," and it is much more important that its unity of interest, its unity of purpose be kept before the children than that subjects be taught with extreme thoroness. Each child in school needs to be personally conducted. Personal observation of study, careful consideration of various lines of ability, the adaptation of the curriculum to the needs of the individual child are the most important duties of the teacher. Now if each child is moved about from one teacher to another, or is made the sad recipient of calls by teacher after teacher, this care is lost. No one looks after the child, — each one looks after his subject. Miss Jones values Johnny according to the show he makes in history, which is her subject. Miss Brown bases her estimate of Johnny and her treatment of him upon the brilliancy of his recitation in her subject, which is geography, and so on thru the list of teachers and the list of subjects. There is no well-rounded scheme for his development. The whole plan places too much emphasis upon disconnected knowledge, and tends to substitute that for that growth of the spirit which is education, and for which during the earlier years the children need the careful nurture, the considerate and wise guidance of a single, helpful teacher, not force-pumps of knowledge.

The departmental system in other ways tends to remove to too great an extent the personal element from the relation of the teacher and the pupil. In my judgment, it would be much wiser to place certain limitations on department work in the earlier high-school years than to introduce the high-school method of specialization and disintegration into the grammar schools. The time when the pupil is in the higher grammar grades and first years of the high school is the most critical time in his life — the time of the beginning of adolescence, and he needs at that time, if any, the counsel and guidance of a firm, strong, wise friend, and not the pulling and tugging of a number of people anxious to get him thru as many pages of their individual subjects as possible.

The complaint that children are over-worked in the grammar grades has often force, considering the physical condition of the pupils at that time, but it gains more force if the work is departmental and the careful consideration of the class teacher is removed.

There is also the confusion which comes from bringing pupils under the care of teachers having different standards. The good work of one teacher is often more than offset by the poor work of another, who happens to secure popularity because he makes his work easy.

To my mind, these arguments vastly more than offset practically the only argument for departmental teaching in elementary schools, viz.: greater thoroness in instruction in individual subjects. School life, like all life, is a unity, and in order to be most effective upon children the unity needs to be kept constantly before their minds. Education is much more than knowledge, and children need to be interested in their school life more, possibly, than in the acquisition of facts on the different subjects, for how small a part of life facts such as may be taught in school are, and how great a part of life the ideals and tendencies, the motives and aspirations that may be planted in the upper grammar grades by the wise class teacher are.

Possibly I have written with more than my usual warmth upon this subject. I have, however, endeavored to present both sides fairly, and if I have persuaded any teacher, or any school authorities, that it is better to have a unified, wholesome school life for pupils in the upper grammar grades than to have a few specialists, even tho they be most scholarly, I shall be content.

New York. C. B. GILBERT.

COURSE OF STUDY AND METHODOLOGY.

Scientific Education.

THERE are other forms of culture besides physical science, and I should be profoundly sorry to see the fact forgotten, or even to observe a tendency to starve or cripple literary or æsthetic culture for the sake of science. Such a narrow view of the nature of education has nothing to do with my firm conviction that a complete and thoro scientific culture ought to be introduced into all schools. By this, however, I do not mean that every school boy should be taught everything in science. That would be a very absurd thing to conceive, and a very mischievous thing to attempt. What I mean is that no boy nor girl should leave school without possessing a grasp of the general character of science, and without having been disciplined, more or less, in the methods of all sciences; so that, when turned into the world to make their own way, they shall be prepared to face scientific discussions and scientific problems, not by knowing at once the conditions of every problem, or by being able at once to solve it; but by being familiar with the general current of scientific thought, and being able to apply the methods of science in the proper way, when they have acquainted themselves with the conditions of the special problem.

That is what I understand by scientific education. To furnish a boy with such an education, it is by no means necessary that he should devote his whole school existence to physical science; in fact, no one would lament so one-sided a proceeding more than I. Nay, more, it is not necessary for him to give up more than a moderate share of his time to such studies, if they be properly selected and arranged, and if he be trained in them in a fitting manner.

I conceive the proper course to be somewhat as follows: To begin with, let every child be instructed in those general views of the phenomena of nature for which we have no exact English name. The nearest approximation to a name for what I mean, which we possess, is "physical geography." The Germans have a better, *Erdkunde* ("earth knowledge" or "geology" in its etymological sense), that is to say, a general knowledge of the earth, and what is on it, in it, and about it. If any one who has had experience of the ways of young children will call to mind their questions, he will find that so far as they can be put into any scientific category, they come under this head of *Erdkunde*. The child asks, "What is the moon, and why does it shine?" "What is this water, and where does it run?" "What is the wind?" "What makes the waves in the sea?" "Where does this animal live, and what is the use of that plant?" And if not snubbed and stunted by being told not to ask foolish questions, there is no limit to the intellectual craving of a young child, nor any bound to the slow but solid accretion of knowledge and development of the thinking faculty in this way. To all such questions, answers which are necessarily incomplete, tho true as far as they go, may be given by any teacher whose ideas represent real knowledge and not mere book learning; and a panoramic view of nature, accompanied by a strong infusion of the scientific habit of mind, may thus be placed within the reach of every child of nine or ten.

After this preliminary opening of the eyes to the great spectacle of the daily progress of nature, as the reasoning faculties of the child grow, and he becomes familiar with the use of the tools of knowledge—reading, writing, and elementary mathematics—he should pass on to what is, in the more strict sense, physical science. Now there are two kinds of physical science: the one regards form and the relation of forms to one another; the other deals with causes and effects. In many of what we term our sciences, these two kinds are mixed up together; systematic botany is a pure example of the former kind, and physics of the latter kind of science. Every educational advantage which training in physical science can give is obtainable from the proper study of these two, and I should be contented, for the present, if they added to our *Erdkunde*, furnished the whole of the scientific curriculum of schools. Indeed, I conceive it would be one of the greatest boons which could be conferred, if henceforward every child in the country were instructed in the general knowledge of the things about it—in the elements of physics, and of botany. But I should be still better pleased if there could be added somewhat of chemistry, and an elementary acquaintance with human physiology.

So far as school education is concerned, I want to go no further just now; and I believe that such instruction would make an excellent introduction to that preparatory scientific training which is so essential for the successful pursuit of our most important professions. But this modicum of instruction must be so given as to insure real knowledge and practical discipline. If scientific education is to be dealt with as mere book work, it will be better not to attempt it, but to stick to the Latin Grammar, which makes no pretence to be anything but book work.

If the great benefits of scientific training are sought, it is essential that such training should be real: that is to say, that the mind of the scholar should be brought into direct relation with the fact that he should not merely be told a thing, but made to see by the use of his own intellect and ability that the thing is so and not otherwise. The great peculiarity of scientific training, that in virtue of which it cannot be replaced by any other discipline whatsoever, is this bringing of the mind directly into contact with fact, and practising the intellect in the completest form of induction; that is to say, in drawing conclusions from particular facts made known by immediate observation of nature.

The other studies which enter into ordinary education do not discipline the mind in this way. Mathematical training is almost purely deductive. The mathematician starts with a few simple propositions, the proof of which is so obvious that they are called self-evident, and the rest of his work consists of subtle deductions from them. The teaching of languages, at any rate as ordinarily practised, is of the same general nature—authority and tradition furnish data and the mental operations of the scholar are deductive.

Again: If history be the subject of study, the facts are still taken upon the evidence of tradition and authority. You cannot make a boy see the battle of Thermopylæ for himself, or know of his own knowledge that Cromwell once ruled England. There is no getting into direct contact with natural fact by this road; there is no dispensing with authority, but rather a resting upon it.

In all these respects, science differs from other educational discipline, and prepares the scholar for common life. What have we to do in every-day life? Most of the business which demands our attention is matter of fact, which needs, in the first place, to be accurately observed or apprehended; in the second, to be interpreted by inductive and deductive reasonings, which are altogether similar in their nature to those employed in science. In the one case, as in the other, whatever is taken for granted if so taken at one's own peril; fact and reason are the ultimate arbiters, and patience and honesty are the great helpers out of difficulty.

But if scientific training is to yield its most eminent results, it must, I repeat, be made practical. That is to say, in explaining to a child the general phenomena of nature, you must, as far as possible, give reality to your teaching by object-lessons; in teaching him botany, he must handle the plants and dissect the flowers for himself; in teaching him physics and chemistry, you must not be solicitous to fill him with information, but you must be careful that what he learns he knows of his own knowledge. Don't be satisfied with telling him that a magnet attracts iron. Let him see that it does; let him feel the pull of the one upon the other for himself.

And, especially, tell him that it is his duty to doubt until he is compelled, by the absolute authority of nature, to believe that which is written in books. Pursue this discipline carefully and conscientiously, and you may make sure that, however scanty may be the measure of information which you have poured into the boy's mind, you have created an intellectual habit of priceless value in practical life.

One is constantly asked, When should this scientific education be commenced? I should say with the dawn of intelligence. A child seeks for information about matters of physical science as soon as it begins to talk. The first teaching it wants is an object-lesson of one sort or another, and as soon as it is fit for systematic instruction of any kind, it is fit for a modicum of science.

People talk of the difficulty of teaching young children such matters, and in the same breath insist upon their learning their catechism, which contains propositions far harder to comprehend than anything in the educational course I have proposed. Again, I am incessantly told that we who advocate the introduction of science into schools make no allowance for the stupidity of the average boy or girl; but in my belief, that stupidity, in nine cases out of ten, "*fit, non nascitur,*" and is developed by a long process of parental and pedagogic appetites, accompanied by a persistent attempt to create artificial ones for food which is not only tasteless, but essentially indigestible.

Those who urge the difficulty of instructing young people in science are apt to forget another very important condition of success—important in all kinds of teaching, but most essential, I am disposed to think, when the pupils are very young. This condition is, that the teacher should himself really and practically know his subject. If he does he will be able to speak of it in the easy language and with the completeness of conviction, with which he talks of any ordinary every-day matter. If he does not, he will be afraid to wander beyond the limits of the technical phraseology which he has gotten up; and a dead dogmatism, which oppresses or raises opposition, will take the place of the lively confidence born of personal conviction, which cheers and encourages the eminently sympathetic mind of childhood.

I have already hinted that such scientific training as we seek for may be given without making any extravagant claim upon the time now devoted to education. We ask only for "a most favored nation" clause in our treaty with the schoolmaster; we demand no more than that science shall have as much time given to it as any other single subject—say four hours a week in each class of an ordinary school.

For the present, I think men of science would be well content with such an arrangement as this; but, speaking for myself, I do not pretend to believe that such an arrangement can be, or will be, permanent. In these times the educational tree seems to me to have its roots in the air, its leaves and flowers in the ground; and I confess I should very much like to turn it upside down, so that its roots might be solidly embedded among the facts of nature, and draw thence a sound nutriment for the foliage and fruit of literature and of art. No educational system can have a claim to permanence unless it recognizes the truth that education has two great ends to which everything else must be subordinated. The one of these is to increase knowledge; the other is to develop the love of right and the hatred of wrong.

With wisdom and uprightness a nation can make its way worthily, and beauty will follow in the footsteps of the two, even if she be not specially invited, while there is, perhaps, no sight in the whole world more saddening and revolting than is offered by men sunk in ignorance of everything but what other men have written; seemingly devoid of moral belief or guidance, but with the sense of beauty so keen, and the power of expression so cultivated, that their sensual caterwauling may be almost mistaken for the music of the spheres.

At present, the education is almost entirely devoted to the cultivation of the power of expression, and of the sense of literary beauty. The matter of having anything to say beyond a hash of other people's opinions, or of possessing any criterion of beauty, so that we may distinguish between the God-like and the devilish, is left aside as of no moment. I think I do not err in saying that if science were made the foundation of education, instead of being, at most, stuck on as cornice to the edifice, this state of things could not exist.

In advocating the introduction of physical science as a leading element in education, I by no means refer only to the higher schools. On the contrary, I believe that such a change is even more imperatively called for in those primary schools in which the children of the poor are expected to turn to the best account the little time they can devote to the acquisition of knowledge.

—From an address by the late THOMAS HUXLEY.

"I am much pleased with the improvement in EDUCATIONAL FOUNDATIONS and hope to see it in general use among the teachers of the country."—SUPERINTENDENT NYE, *Lancaster*, *Wis.*

Illustrations.

IN teaching, illustration is the process of making clear the subject taught by bringing it into connection with something already well known to, and fully understood by, the pupil. It means literally lighting up a subject or throwing a light upon a subject: and this light has to be sought among the ideas that the pupil already possesses.

There are two main classes of illustrations: *material* and *verbal*. Actual objects, models of objects, maps and pictures are the usual forms of material illustrations used. The blackboard is also in easy reach. But after all, the teacher has to depend mainly on verbal illustration. The fundamental point in this form of illustration is to place the pupil at the proper point of view with regard to the subject to be illustrated.

Our main aim is to get the ideas in the pupil's mind to form the same combination as already exists in the teacher's. To accomplish this the teacher must know (*a*) the exact nature of the combination in his own mind; (*b*) the materials already present in the child's mind; (c) the materials lacking in the child's mind which it is the teacher's business to supply. In addition, it is always assumed that the teacher carefully studies the laws according to which the mind acts.

An illustration consists in showing up the new ideas in the light of the old. The first method consists in bringing the particular into relation with the general. If we can refer a particular case to a general law, we feel that we have thrown light upon that special case, and that we understand it better. In particular, if we can group one or two known facts under a general law which explains them all, we supply an excellent illustration. For example, if a boy knows the action of his sucker, of the diving bell, and of the ordinary suction pump—the law of atmospheric pressure will come to him as a very illuminating new fact.

More frequently, however, in actual teaching, illustration consists in supplying examples of rules already known or already given. This you will recognize as an application of the deductive method.

The important point to notice is that sometimes the rule illustrates the example, and sometimes the example illustrates the rule. Whichever of the two is the more familiar to the pupil illustrates the less familiar.

Almost all other forms of illustration depend upon what is known as *analogy*. Before we can have an analogy we must deal with four ideas. These must be arranged in pairs in such a way that the relation between the first pair of ideas is the same as that between the second pair. "I am the vine, ye are the branches." Here the four ideas are, I (*i.e.* Jesus), the vine, ye (*i.e.* Jesus' followers, the branches. To bring out the analogy the four ideas must be placed in two groups, *Jesus* and *Jesus' followers* in the one group, and *the vine* and *its branches* in the other. Thus it is stated in this way: Jesus has the same relation to His followers as the vine has to its branches. An analogy can be stated in the same way as you used to state a proportion problem when you were at school.

Jesus: His followers : : the vine : its branches.

This is read, as you no doubt remember: "As Jesus is to his followers, so is the vine to its branches." The statement is equally true if the second pair is put first: "As the vine is to its branches, so is Jesus to His followers." In illustration it is usually better to place the better known pair first.

We are now in a position to understand the statement that analogy is the equality or similarity of relations. This world of ours is built of millions upon millions of what for want of a more definite word we call things. These things are related to each other in all manner of ways. But there are fewer relations than there are things; *i.e.*, many pairs of things bear the same relation to each other. But this same relation is usually more easily understood between a pair of things with which we are familiar than between a pair of strange things. Hence the use of analogy in illustration. We show the relation as existing between a pair of well-known things, and then tell the pupil that the same relation exists between the less known pair about which the lesson is concerned. The teacher is assumed to be equally familiar with both pairs.*

There is a danger against which teachers must be always on their guard. The petty verbal quibbling to which children are so prone is very apt to gratify itself on any accidentally humorous turn that a teacher's illustration may take. The art student is carefully warned against painting the little cottage on the hill, with its little door, its two windows, its doorstep—and the consequent grotesque resemblance to a human face. The caution is as necessary in verbal as in pictorial illustration. One specially dangerous reference is to oneself. Be very sparing of the first personal pronoun. The teacher's own experience is probably the best possible source of illustration, but it should not always appear as *his* personal experience. An occasional reference to what "happened to myself" gives an added interest to the incident, but a steady course of personal reminiscences is fatal to good work. Children are keen critics, and soon resent mere egotism. Besides, every personal reference gives a chance to the cleverly mischievous to interpolate something disagreeable.

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*Analogy is also used as an instrument of logical inference; but with that use we are not concerned here.

Not everything needs to be illustrated. Some things are clear enough in themselves, and it is time wasted to illustrate them. Sometimes the mistake is made of illustrating an easy thing by referring to a difficult one. It has to be remembered that *easy* and *difficult* are relative terms whose application varies with the person in connection with whom they are used. To illustrate something to a class in a mission school in the slums of an inland town by a reference to the seaside is in most cases an example of this blunder.

The essential thing in analogical illustration is the equality of the relations in the two cases. Unless this equality is maintained, analogical teaching may become positively dangerous. Here are three examples:—

Don't tell lies—Remember Ananias.
Don't call names—Remember the bears.
Don't sleep in church—Remember Eutychus.

This teaching is immoral: the reasons given are not those which should support good actions. We are to tell the truth because it is right, not because we shall be punished if we do not. But besides this, the analogy is false. The relation between these sins and their punishment is not what it was in the Bible times. The last example is particularly bad, as there was no sin involved in the sleep of Eutychus. The effect of the teaching in the first two cases is often extremely bad. Many a child after his first conscious lie more than half expects to drop down dead. But when the lie is told, or the nickname shouted with no apparent evil result, there is a moral rebound, and the lesson does harm instead of good. The mistake lies in misconceiving the essentials of the lesson. The details are different in Bible times and in ours, but the lesson remains the same. Liars do not drop dead now, but God is as angry with them to-day as He was in Peter's time—and for the same reason. Sin is punished because it is sin: but God takes His own way to punish it.

One of the most pernicious misapplications of illustration is to use it for its own sake. An illustration which does not illustrate, but is interesting in itself, is a good thing out of place. This misuse is mainly exemplified in dealing with stories in teaching. The story has its place as a means of illustration; but it must be used as an illustration, not as a sedative.

In the first place, an illustrative story must be a real story, with a beginning, middle, and end—not a mere description, or still worse, a mere bit of padding round a moral. Further, it must be a true story, in the sense that it is true to life. It need not tell of things that acually happened, but it must tell of nothing that could not have happened. It must not have that Sunday school atmosphere that suffocates so many illustrative stories, and makes intelligent pupils despise them. In a story that is worth anything as a lesson, the men, women, and children must live and act as do men, women, and children in real life.

In the second place, the story must illustrate in a natural way some point that comes up in the lesson. It must convey the impression of coming up in natural course, not of being dragged in. Further, it should carry its own moral with it. There should be no need for the teacher to labor at the moral.

We have seen already that in order to maintain the interest in a lesson as a whole we must satisfy all the subordinate interests that arise. The illustrative story is very apt to rouse these subordinate interests, and great care must be taken to prevent the illustration from derailing the interest altogether. To interest people we found that we had to get them to do a good deal of the work; by doing all the work for the hearer we kill his interest. If we leave something for the hearer to supply, we prevent his interest from subsiding. For example, a teacher to illustrate the love which is "shed abroad in our hearts" described in excellent language the journey of two little children in a wagon thru the Australian bush, under the care of their father's servant. The picture was skilfully worked up to the point at which the words "lost in the bush" became full of meaning to the little ones. All the horrors of a sleepless night in the awful darkness were graphically described and contrasted with the glad outburst of all created things in the morning sunshine. But here the teacher left his description and the lost children, and went on to make the application to his subject. But the pupils could not follow him. Their interest had been switched off into the Australian bush, and there it remained and kept them busy tagging on conclusions to the unfinished tale. As an artistic sketch the story was excellent. It left something to the hearer's imagination. But as an illustration this was exactly what it should not have done. Had the teacher supplied an ending, however commonplace, he would have killed the interest in the mere story, and left some for the application.

The story must be told from the proper point of view. The pupil has a strong tendency to put himself in the place of the winning party in a story. Thus Rousseau points out that children in reading or hearing the fable of the Fox and the Crow naturally put themselves in the place of the fox, not of the crow. Young teachers cannot be too strongly warned how frequently children miss the lesson of a story by adopting the wrong point of view. The following story was handed in by a stupid boy. In his class pupils used to have a story read aloud to them in order that they might reproduce it as an exercise in composition: the story explains itself.

"A good man who was going along the Ganges. He saw a tiger. The tiger was going to jump. So the man did not know what to do. So he went down to prayed. And the tiger it jumped, and the man was down to pray. And the tiger missed the man. But a Krokidile opened its mouth. And the tiger was eat up and the man was saved. Moral *look before you leap*."

The moral was not asked for, and the boy was too dull to mean a joke.

There is another form in which moral training by means of stories is carried on. The whole lesson may consist of a story, usually made up in order to be explained. This kind of teaching, however, falls more to lecturers and preachers than to teachers. The story here is not an illustration, but itself forms the lesson.

Teachers occasionally experience great difficulty in finding suitable illustrations, and are apt to fall back upon those provided in certain magazines.

These illustrations are usually supplied by skilful teachers who have chosen them for their special fitness for the lesson dealt with. They are accordingly quite worthy of the teacher's attention. But some teachers go the length of using a reference book of illustrative stories arranged under appropriate heads. To illustrate courage or faith or benevolence the teacher turns up the index of his book, and there finds a reference to a series of stories which are more or less appropriate. All this is inexpressibly wooden. The best illustrations are those which we find for ourselves. We ought to be always on the lookout in our ordinary life and our ordinary reading for interesting facts and analogies that may serve our purpose in class. An illustration that has come to us in this way, and has passed thru our experience, has become to some extent a part of ourselves, and is a much more powerful instrument in our hands than something selected out of an alphabetical index. In this as in all other directions, the teacher is giving his best when he is giving himself.

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Educational Classics.

Extracts from Herbert Spencer's Essays on Education

THE comparative worths of different kinds of knowledge have been as yet scarcely even discussed—much less discussed in a methodic way with definite results. No standard of relative values has yet been agreed upon. Men read books on this topic, and attend lectures on that; decide that their children shall be instructed in these branches of knowledge, and shall not be instructed in those; and all under the guidance of mere custom, or liking, or prejudice; without ever considering the enormous importance of determining in some rational way what things are really most worth learning. It is true that in all circles we have occasional remarks on the importance of this or the other order of information. But whether the degree of its importance justifies the expenditure of the time needed to acquire it, and whether there are not things of more importance to which the time might be better devoted, are queries which, if raised at all, are disposed of quite summarily, according to personal predilections. It is true, also, that from time to time we hear revived the standing controversy respecting the comparative merits of classics and mathematics. Not only, however, is this controversy carried on in an empirical manner, with no reference to an ascertained criterion; but the question at issue is totally insignificant when compared with the general question of which it is part. To suppose that deciding whether a mathematical or a classical education is the best is deciding what is the proper curriculum, is much the same thing as to suppose that the whole of dietetics lies in determining whether or not bread is more nutritive than potatoes!

The question which we contend is of such transcendent moment is, not whether such or such knowledge is of worth, but what is its *relative* worth? Had we time to master all subjects we need not be particular.

We "that have but span-long lives" must ever bear in mind our limited time for acquisition. And remembering how narrowly this time is limited, not only by the shortness of life, but also still more by the business of life, we ought to be especially solicitous to employ what time we have to the greatest advantage. Before devoting years to some subject which fashion or fancy suggests, it is surely wise to weigh with great care the worth of the results, as compared with the worth of various alternative results which the same years might bring if otherwise applied.

In education, then, this is the question of questions,—how to decide among the conflicting claims of various subjects on our attention. Before there can be a rational curriculum, we must settle which things it most concerns us to know; or, to use a word of Bacon's now unfortunately obsolete—we must determine the relative values of knowledges.

To this end, a measure of value is the first requisite. And happily, respecting the true measure of value, as expressed in general terms, there can be no dispute. Every one in contending for the worth of any particular order of information, does so by showing its bearing upon some part of *life.*

How to live?—that is the essential question for us. Not how to live in the mere material sense only, but in the widest sense. The general problem which comprehends every special problem is—the right ruling of conduct in all directions under all circumstances. In what way to treat the body; in what way to treat the mind; in what way to manage our affairs; in what way to bring up a family; in what way to behave as a citizen; in what way to utilize all those sources of happiness which nature supplies—how to use all our faculties to the greatest advantage of ourselves and others—how to live completely? And this being the great thing needful for us to learn, is, by consequence, the great thing which education has to teach. To prepare us for complete living is the function which education has to discharge; and the only rational mode of judging of any educational course is, to judge in what degree it discharges such function.

This test has to be applied consciously, methodically, and thruout all cases. It behooves us to set before ourselves, and ever to keep clearly in view, complete living as the end to be achieved; so that in bringing up our children we may choose subjects and methods of instruction, with deliberate reference to this end.

Our first step must obviously be to classify, in the order of their importance, the leading kinds of activity which constitute human life. They may be naturally arranged into: 1. Those activities which directly minister to self-preservation; 2. Those activities which, by securing the necessaries of life, indirectly minister to self-preservation; 3. Those activities which have for their end the rearing and discipline of offspring; 4. Those activities which are involved in the maintenance of proper social and political relations; 5. Those miscellaneous activities which make up the leisure part of life, devoted to the gratification of the tastes and feelings.

These stand in something like their true order of subordination. Knowledge immediately conducive to self-preservation is of primary importance. Next comes the indirect self-preservation which consists in acquiring the means of living. The welfare of the family underlies the welfare of society, hence knowledge directly conducing to the first must take precedence of knowledge directly conducing to the last. Citizenship is of more moment than that which goes out in accomplishments or exercise of the tastes; in education, therefore, preparation for the one must rank before preparation for the other.

The ideal of education is complete preparation for direct self-preservation, for indirect self-preservation, for parenthood, for citizenship, for the miscellaneous refinements of life. But we do not mean to say that these divisions are definitely separable. We do not deny that they are intricately entangled with each other in such way that there can be no training for any that is not in some measure a training for all. Nor do we question that of each division there are portions more important than certain portions of the preceding divisions: that, for instance, a man of much skill in business but little other faculty, may fall further below the standard of complete living than one of but moderate power of acquiring money but great judgment as a parent. Failing this ideal, as in our phase of civilization every one must do more or less, the aim should be to maintain *a due proportion* between the degrees of preparation in each. Not exhaustive cultivation in any one, supremely important tho it may be—not even an exclusive attention to the two, three, or four divisions of greatest importance; but an attention to all,—greatest where the value is greatest, less where the value is less, least where the value is least.

In regulating education by this standard, there are some general considerations that should be ever present to us. The worth of any kind of culture, as aiding complete living, may be either necessary or more or less contingent. There is knowledge of intrinsic value, knowledge of quasi-intrinsic value, and knowledge of conventional value. The truths of natural science in general are of intrinsic value: they will bear on human conduct ten thousand years hence as they do now. The extra knowledge of our own language, which is given with an acquaintance with Latin and Greek, may be considered to have a value that is quasi-intrinsic: it must exist for us and for other races whose languages owe much to these sources; but will last only as long as our languages last. While that kind of information which, in our schools, usurps the name History—the mere tissue of names and dates and dead unmeaning events—has a conventional value only: it has not the remotest bearing upon any of our actions. In a rational estimate, knowledge of intrinsic worth must, other things equal, take precedence of knowledge that is of quasi-intrinsic or conventional worth.

One further preliminary. Acquirement of every kind has two values—value as *knowledge* and value as *discipline*. Besides its use for guidance in conduct, the acquisition of each order of facts has also its use as mental exercise; and its effects as a preparative for complete living have to be considered under both these heads.

These, then, are the general ideas with which we must set out in discussing a *curriculum:* Life as divided into several kinds of activity of successively decreasing importance; the worth of each order of facts as regulating these several kinds of activity, intrinsically, quasi-intrinsically, and conventionally; and their regulative influences estimated both as knowledge and discipline.

(To be continued.)

Teacher and Pupils in a Fifteenth Century School.
From a woodcut published at Cologne in 1495.

Child Study.

Aids to Girl Study.

ADAPTING to our circumstances all the important arguments in favor of child study we find ourselves obligated to become expert in knowing the qualities that go to make up the fine girl. We must know how to appreciate what of those qualities are most readily strengthened by the studies we, as teachers, direct, and how to recognize that it is not so much the studies that will strengthen the qualities as it is our own personality, skill, adaptation, and enthusiasm.

We must get beyond the narrow idea that we are mere specialists in biology or typewriting or any line of book-knowledge or hand-work, and must keep alive to the fact that we are developers and trainers of intellectual, emotional, and volitional power. The science of developing power which we were required to study before passing the examinations to become teachers is now, even more than then, a pertinent matter to us, and we should enrich and perfect our teaching by continued study and application of those same sciences. Now, if ever, we need to know what thinking or feeling, etc., is, how it is developed, and what the best ways of training our daily exercises towards the perfection are. We need to have large conceptions of character, and to analyze it with sufficient definiteness to plan for its perfection.

ANALYSIS OF THE GIRL.

I recognize the artificiality of every analysis of an inseparable unity like this. But insomuch as human knowledge, no less a unity than human nature, has always, for school purposes, been divided into studies, so for the same purpose of convenience and definite aim, I suggest an analysis of the girl in order that we may work with more exactness for her realization. These qualities shade into one another, but they convey a meaning and they are capable of assisting us. For such purposes I suggest this analysis of an ideal girl, the qualities that school should reach:

Qualities of Body: Health, Vigor, Physical Completeness, Beauty, Grace.

Qualities of Intellect: Intuition, Acute Senses, Memory, Imagination, Grasp of Ideas, Judgment, Reasoning, A Fair Stock of Knowledge.

Qualities of Feelings Love of Order (orderliness), Love of Work (industry), Love of Knowledge (curiosity), Love of Country, (patriotism), Love of Humanity (altruism, sympathy), Love of Truth, Love of Right, Self-respect, Feeling for Beauty (taste), Appreciation of Pathos, Sense of Humor, Cheerfulness, Appreciation of Sublimity and Higher Emotions, Enthusiasm.

QUALITIES OF WILL: Skill, Accuracy, Originality, Independence, Expression, Honesty, Expression of Cheerfulness, Dignity, Courtesy, Economy, Patience, Promptness, Speed, Self-control and Management, Courage.

This device has all the limitations of graphic methods applied to things of the mind. It is intended to be suggestive and to assist an escape from the mechanical pursuit of the mere knowledge content of courses of study.

KEEPING THE AIMS PROMINENT.

Merely to mark out higher aims and then return daily to the old manner of chopping off a piece of the subject at each lesson to feed to the class, would be an absurdity. The aims in girl teaching must be kept prominent in the teacher's mind, even tho this will mean a considerable reversal of previous habits of thought. For instance, when a teacher takes up "The Rime of the Ancient Mariner," it should be with the idea of exercising certain emotional powers of pupils; their feeling for beauty, their artistic taste, and their sympathy. "The Rime of the Ancient Mariner" should mean a set of emotional operations toward whose effective workings are directed all the other acts suggested by going thru this poem. Understanding, analysis, memory, reasoning, discussion, looking up of words, composition, writing, grammatical analysis, and everything that is done while reading the Rime, — all are determined as to amount and as to method by their ability to intensify the main emotional operations to be sought.

On the other hand a lesson in geometry will aim at memory of position, selection of truths, exactness of language, and effectiveness of argument.

One lesson in drawing will aim at speed; humor will be a very lightly considered aim. Another will aim at exercise of the humorous sensibilities, as in the study of some of the Dutch school; here speed will hardly be considered.

But in each of the above cases it is highly important that the main consideration in mind is the girl appreciating beauty, the girl affected to sympathy, the girl reasoning, the girl hastening and the girl smiling rather than that the teacher's thoughts should be on the Rime, the theorem, the sketch, and the painting. These are means, not ends.

In almost every examination for teacher's license, there is a requirement that the candidate give in detail the aims to be borne in mind in teaching this subject or in conducting that exercise. A union should be effected between the most enlightened theory and every-day practice. Class exercises should be so vitalized by intelligent direction that the teacher will have prepared each lesson as an employment of certain energies of human nature and will be able to tell quickly what they are and whether they are working well or not.

TRAINING THE GIRL.

"Look at the girls" is old as a statement, but it is untried enough in practice to make it an unique experiment with all the interest of novelty. Get your eyes out of the book and study your girls. Look at the new ones when they first enter school. Unless at the end of your work with them, they are less flabby in mind and body, more erect and springy; unless they stand better, walk better, breathe better, look better, think more accurately, connectedly, and extensively; see more clearly, act more decisively, and enjoy more heartily of what credit is the long record of the days present, pages covered and credits set down in a book? The perpetual and unanswerable fling made at schools from Aristophanes down to Emerson is that the things they do are so remote from human sympathies.

Almost any man or woman can give a fairly definite idea of the kind of girl who is a fine girl. But schools have been bent on other things; on a body of knowledge handed down and made the main consideration of a school because other schools have copied it from others.

While the ideal girl is the aim of the school, we must be content to accept the condition that we are only one of the forces working with (or sometimes against) heredity, home, church, literature, and society, to develop her. The exact aim of the school, therefore, is such contribution toward the fine girl as can be made with the facilities and time available.

THE TEACHER'S EQUIPMENT.

To follow a convenient analysis suggested by City Supt. W. H. Maxwell, of New York, the teacher's professional assets may be divided into: Teaching, Ability, Scholarship, Effort, and Personality.

Of the improvement and perfection of teaching ability and scholarship, it is not necessary to speak, but some suggestions upon the qualities of personality and effort should be considered. The teacher's calling is peculiar in that it requires a large amount of vigor, enthusiasm, nerves, serenity, cheerfulness and inspiration.

If, for the moment, we could imagine a teacher made up of two parts, one consisting of knowledge and skill, the other of what we may call attractive personality, that is cheerfulness, sympathy, magnetism, etc., I think that there can be no doubt that the preponderance of her knowledge over her personality would diminish rather than increase her power as a teacher. It is not the amuont of scholarship we possess that helps the girls. It is the amount of enthusiasm, and lasting desire for improvement we can inspire in them. This depends more upon our personality than upon our knowledge. If our spirit is right it will lead us to perfect ourselves in scholarship sufficiently to furnish us with materials for efficient instruction.

Will you not agree that this appreciable but indefinable force that we call personality is not perpetual and self-sustaining? It requires food. If we are to be eminently successful teachers we must live, when not engaged in school duties, such lives as will refresh our minds and hearts. We must not only be scholars. We must be persons, live men and women.

Being called upon to furnish sympathy, encouragement, spirit and inspiration, we must make conscious and adequate provision to get these things ourselves. In other words we must see that a fair distribution of our lives is made between our professional and personal occupations. When I say that this arrangement must be a conscious one, I mean to emphasize the adjective. Unless we do plan for those occupations which restore, and inspire us, they will be neglected. The natural tendency of teachers is toward overwork thru neglect to realize that the other life must be consciously and carefully guarded and not permitted to diminish thru encroachments of business or professional demands.

If we would exercise our reason (and of all people in the world, we who have charge of the education of the coming woman should be guided by very wide and intelligent views and should act from reason rather than impulse) we would not fail to see that not only our ultimate but our daily success depends upon maintaining a personal life that is refreshing and inspiring.

For those that have not schooled themselves to a conduct of life that practises this, there is no scarcity of guides, from Socrates, Epictetus, Epicurus, and Marcus Aurelius down to Emerson, Phillips Brooks, Robert Louis Stevenson, and Daniel Brinton. They tell us that we must order our hours, be masters of our time, provide for the things we need and not let even school circumstances unfairly interfere with our plans. A teacher should select some things she wants to do and should do them. If the reasonable time allowed for professional duties has expired and she finds herself confronted with a bundle of school work and an attractive novel, I cannot but believe that she is a better teacher if she puts away the school work and turns to the novel.

The school needs something more than completeness. It needs buoyancy and confidence and a radiant atmosphere. It is entitled to a fair share of the best things, and the best thing is personality. The best personality for girls is wholesomeness, big heartedness, strength and magnetism. The one great point in the policy of the school is the personality of the teacher, so well understood that the unprepared visitor will have to remark it; so habitually attended to by every teacher that in March, in April, in May and in June the girls will be met by teachers who have kept themselves unruffled, unfidgeted, unworried, fresh, sweet-breathed, hopeful, the kind of person one would voluntarily ask to be introduced to.

One chief way of securing this is by remembering that school duty is not the completion of anything but the completion of all that can be expected on school days between 9 and 3 o'clock with the smallest amount of supplementary work found to be necessary. The rest of the time, it is to be expected, and not from any sentimental reason, but because it is right and the school's due, will be expended upon those pursuits which give you with your distinct personality, the kind of life your experience indicates you should have. In other words, in so far as you are able, treat yourself both as to work and play as you would humanely treat a servant whom you loved and respected. Do it for the sake of these girls, whose school life should be looked back upon as a golden age with your memory shining in it.

Try to appreciate that your daily work is not completion of tasks, but the profitable filling of a given time. If you can get strength of will enough to select the things you are going to do, and to leave things undone until to-morrow without permitting them to harass you, you will achieve one great requisite of a teacher.

If we are to be masters of our time and spirit we must plan our conduct beforehand. There is not a subject that we can afford to wander into and idle along with as fancy strikes us. Our task is the selection of the best things. We must know beforehand what we are going to do. Everything now-a-days that has any swiftness or decision of motion is aimed beforehand. A railroad train runs on a track, and even our ocean steamers keep in a pre-established route.

William McAndrew.

Technical High School for Girls, New York City.

An Experiment in Child Study in the State of Maine.

Two years since, State Supt. W. W. Stetson prepared for the use of teachers and school officers in Maine, a blank for the study of children, with comments and suggestions. The plan was given in the December number of Educational Foundations. The returns of the investigation have just been tabulated by Mr. Stetson and presented as follows:

REPLIES were received from one hundred seventy-one teachers giving detailed data. Twenty-five of the teachers sending replies are men and one hundred forty-six are women.

The first series of questions aimed to ascertain prevailing interests of teachers in the subjects usually taught in the common schools. These results have the value and the weakness of personal reminiscences, giving, as they do, interests seen thru the distance of years and translated into terms of later experience and larger life. "In their real work with children, teachers probably draw more upon their memories, for an interpretation of the acts of the children under their charge, than from any other source of professional equipment. Memory is sometimes treacherous and data sometimes colored by personal prejudices. Nevertheless, the teacher will always be limited more or less by the recollections of her own childhood."

Interest in school studies were sought along these lines:

1. Your favorite study when a pupil;
2. Your favorite study now;
3. The study you prefer to teach.

Answers to these questions have been collected and the results expressed in percentages in the following table:

I. FAVORITE STUDY WHEN A CHILD.

Studies.	Men—%	Women—%
1. Mathematics (general)	24	22
(a) Arithmetic	16	27
(b) Algebra	4	3
2. Language studies		
(a) Reading and literature	4	10
(b) Grammar and composition	4	12
(c) Spelling	0	2
3. History	24	14
4. Geography	8	10
5. Sciences and Nature study	0	
II. FAVORITE STUDY NOW.		
1. Mathematics (general)	0	30
(a) Arithmetic	20	8
(b) Algebra	8	1
2. Language studies:		
(a) Reading and literature	12	15
(b) Grammar and composition	4	19
(c) Spelling	0	0
3. History	12	9

4. Geography	0	1
5. Sciences and Nature study	16	9
6. Music	0	5
7. Foreign languages	0	3
8. Book-keeping	8	3

III. TEACHING PREFERENCE.

1. Mathematics (general)	28	25
(a) Arithmetic	24	19
2. Language studies:		
(a) Reading and literature	8	10
(b) Grammar and composition	4	7
3. History	4	12
4. Geography	24	6
5. Sciences and Nature study	4	4
6. Music and drawing	2	4

There were scattering subjects in each of the three tables, but the above tabulation gives in the main the reminiscent interests in school studies of the one hundred and seventy-one teachers. A part of the high regard in which the study of mathematics is held is doubtless due to the emphasis placed on the study thruout the elementary school course.

The language studies — reading, literature, spelling, composition and grammar — are mentioned more often by the women teachers, in all three of the tables. Spelling is given in the first table only and by the women.

History has a large place in the interests of these teachers and was more often a favorite study with the men than the women, but the women exceed the men in teaching preference.

Geography occupies a relatively insignificant place in the first and second tables, but an unusually large number of men (24 per cent. of the whole number) say they like best to teach it.

The sciences thruout occupy a relatively subordinate place and music and drawing, because of their recent introduction into the common school course of study, are mentioned in the second and third tables only.

The same child study outline called for certain data concerning the children — nationality, physique, carriage of the body, intellectual capacites, emotional tendencies, will power, strength of memory, acuteness of reasoning, vividness of imagination, keenness of observation, school manners, morals and habits. The 171 teachers sent returns from 4,128 children, 2,107 boys and 2,021 girls. The data are given in the following tables and, excepting nationality, the returns are expressed in percentages:

IV. NATIONALITY OF THE CHILDREN STUDIED.

Parentage.	Boys.	Girls.	Total.
1. American	1,324	1,308	2,632
2. French	313	283	596
3. Irish	158	127	285

4. English	41	39	80
5. Swedish	39	9	48
6. Russian	19	28	47
7. German	3	12	15
8. Italian	9	4	13
9. Other nationalities	15	18	33

V. PHYSIQUE.

Characteristics.	Boys—%	Girls—%
1. Strong and sturdy	86	76
2. Weak and puny	11	10
3. Deformed	8	3
4. With defective vision	5	6
5. With defective hearing	1	9

With respect to physique, the boys and girls make a very satisfactory showing. More careful tests for defective vision and hearing would doubtless produce more alarming statements. While it is true that children in the rural districts are less myopic than in city districts, still it is probably true that there is much more myopia in rural schools than these returns would indicate. More careful studies, with the Smellen test-types, should supplement this preliminary study.

VI. CARRIAGE OF THE BODY.

Manner.	Boys—%	Girls—%
1. Erect and graceful	71	85
2. Awkward and shambling	20	11

The girls, it would seem, have better control of their bodies than the boys. It should be borne in mind, however, that the girl acquires poise and grace in bodily movements earlier than the boys.

VII. INTELLECTUAL CAPACITIES.

Grade.	Boys—%	Girls—%
1. Strong, active and bright	73	54
2. Slow and weak	16	12
3. Very weak	2	1

These returns would indicate that mediocre intellectual capacity falls most often to the lot of the girls, a much larger percentage of the boys being reported as of a strong vigorous type of intellect.

VIII. EMOTIONAL TENDENCIES.

Characteristics.	Boys—%	Girls—%
1. Well balanced and even	34	32
2. Sensitive	21	25
3. Impulsive	12	9
4. Irritable and nervous	14	9
5. Uneven and uncertain	10	11

The fourth item in the above table does not agree with statistics in general. Girls are universally more irritable and nervous than boys and the various school neuroses, so much more common among girls than among boys, are important factors in emotional disturbances.

IX. WILL POWER.

Characteristics.	Boys—%	Girls—%
1. Strong, resolute and controlled	78	74
2. Weak	6	7

The girls make a better showing in will power than is usually supposed and the weak-willed child does not appear as an important factor in these returns.

X. INDIVIDUALITY AND CHARACTER.

Traits.		Boys—%	Girls—%
1. Concentration....	Good	8	8
	Fair	21	19
	Poor	7	4
2. Application......	Good	11	14
	Fair	14	18
	Poor	7	3
3. Endurance.......	Good	8	6
	Fair	18	14
	Poor	2	2
4. Self-reliance.....	Good	14	19
	Fair	17	17
	Poor	6	6
5. Confidence.......	Good	12	13
	Fair	24	15
	Poor	4	3
6. Perseverance.....	Good	12	9
	Fair	15	14
	Poor	6	5
Muscular Control...	Good	15	14
	Fair	13	16
	Poor	4	3

These general qualities have value chiefly to the teacher in immediate charge of the child observed. Muscular control, for example, is one of the necessary qualities in will training and its absence suggests to the teacher the need of specific training.

XI. STRENGTH OF MEMORY.

Degrees.	Boys—%	Girls—%
1. Retentive and ready	60	59
2. Verbal	15	12
3. Weak	10	8
4. Very weak	3	2

Numerous studies have been made on the memory of school children by Shaw, Hawkins, Kirkpatrick, and others and without an exception the memory power of the girls surpassed that of the boys. More definite results might have been obtained by age tabulations. Generally the memory continues to increase in power until the thirteenth or fourteenth year.

XII. ACUTENESS OF REASONING.

Degrees.	Boys—%	Girls—%
1. Strong	43	32
2. Normal	38	26
3. Weak	8	16
4. Very weak	2	3

These results agree in the main with studies made by Monroe, Barnes and Hancock on the reasoning power of school children. The reasoning power of the boy seems more acute and develops earlier than that of the girl.

XIII. VIVIDNESS OF IMAGINATION.

Degrees.	Boys—%	Girls—%
1. Vivid	14	17
2. Normal	27	38
3. Weak	20	11

Here again the superior visualizing power of girls is in accord with studies before made on the vividness of imagination.

XIV. OBSERVATION.

	Boys—%	Girls—%
Number who see objects and their parts quickly	20	24
Number who contrast intelligently	13	15
Number who compare intelligently	13	13
Number who see beauty in an object	22	25
Number who see beauty in a thought	11	13
Number who see beauty in a sentence	11	14
Number who see beauty in a picture	29	31
Number who see the ideas in a picture	16	19
Number who see the pictures in a poem	16	18

The perceptive power of the girls seems slightly superior to that of the boys and they seem more advanced than the boys in the development of the æsthetic sense. There is promise in the fact that so many of both sexes see beauty in a picture. Clearly the capacity to enjoy beauty is in the ascendency in our schools.

XV. MANNERS.

	Boys—%	Girls—%
Courteous	40	46
Gentle	23	32
Refined	18	26
Reserved	11	13
Rude	13	5
Clownish, rowdyish and foppish	7	3

The boys make a better showing than might have been expected when it is recalled that the graces of manners and deportment are more essentially instinctive and inherent in girls than with boys.

XVI. MORALS AND HABITS.

	Boys—%	Girls—%
Truthful	53	59
Untruthful	9	8
Trustworthy	35	40
Dishonest	6	5
Obedient	48	63
Disobedient	6	4
Vicious, malicious and depraved	3	1
Punctual	40	42
Attentive	36	40
Inattentive	10	10
Lazy	9	5
Willful	8	6

While the boys make a less satisfactory showing than the girls, the moral feelings of boys develop less rapidly than the same feelings among girls. So large a proportion of the teachers who made these observations were women, it seems not unlikely that the moral standards were essentially feminine, in which case the boys are placed at a disadvantage.

XVII. MISCELLANEOUS.	Boys—%	Girls—%
Energetic	24	27
Timid	6	10
Courageous	20	16
Generous	24	26
Selfish	10	11
Hopeful	17	13
Despondent	8	3
Peaceable	25	22
Quarrelsome	9	5
Easily discouraged	9	7
Vain	3	4
Intense in hatred	2	2
Imitative	15	12
Original	8	8
Can make things with tools	13	8
Like muscular exercise	29	21
Much affected by what they term beautiful	8	14
XVIII. MOTIVES THAT INFLUENCE.		
Honor	20	26
Love	24	29
Praise	26	26
Rewards	19	21
Desire to excel	24	26
Fear	9	4
XIX. HOW CONTROLLED.		
Muscle	11	5
Will	18	19
Emotions	12	13
Self-control	13	19
XX. ARTICULATION AND PRONUNCIATION.		
Pleasing	25	34
Accurate	14	31
Distinct	32	33
Inaccurate	13	12
Indistinct	11	7
Mumbling	6	5
Drawling	6	2
XXI. LANGUAGE WRITTEN AND SPOKEN.		
Characteristic	11	11
Felicitous	5	6
Clear	21	25
Concise	5	7
Indefinite	4	4
Incorrect	12	10
XXII. PERCENTAGE OF STUDENTS PURSUING VARIOUS STUDIES.		
Reading	90	90
Spelling	81	80
Writing	84	84
Drawing	52	47
Arithmetic	78	77
Language	60	59
Music	35	39
Geography	51	49
History	27	28
Nature studies	42	43

It will be noted that reading and the language arts occupy the commanding places in the schools reported in these statistics. It is encouraging to note the attention given to drawing and music.

XXIII. FAVORITE STUDIES.

	Boys—%	Girls—%
Reading	27	30
Spelling	12	13
Writing	14	16
Drawing	12	12
Arithmetic	27	23
Language	10	11
Music	9	12
Geography	12	12
History	11	9

These preferences, it will be noted, represent the reactions of the teachers rather than of the children. Still, it is important to know what studies the teachers think the favorites with children. Professor Lefevre asked 37,000 French school children to write the studies they liked best and the studies they liked least (*Revue Pedagogique*, Jan., 1900). He found the preferences of the boys as follows: (1) History; (2) Arithmetic; (3) Drawing; (4) Reading; (5) Spelling; (6) Geography; (7) Writing; (8) Grammar; (9) Science. The preference of the girls were as follows: (1) History; (2) Arithmetic; (3) Reading; (4) Geography; (5) Spelling; (6) Drawing; (7) Writing; (8) Grammar; (9) Science.

Miss Kate Stevens, the principal of a large girls' school in the city of London, asked English girls to state their favorite lesson, their hardest lesson and their easiest lesson (*Child Life*, July, 1899). She found that the favorite lessons, as stated by the girls themselves, were in the following order: (1) Reading; (2) Geography; (3) Arithmetic; (4) Writing; (5) Needlework; (6) Grammar; (7) Music; (8) Scriptures.

XXIV. NUMBER WHO EXCEL IN DIFFERENT STUDIES.

	Boys—%	Girls—%
Reading	18	24
Spelling	24	29
Writing	17	20
Drawing	10	9
Arithmetic	21	20
Language	11	12
Music	6	8
Geography	12	11
History	9	9
Nature studies	6	6

Miss Stevens found that the lessons reported as easiest by London school girls were as follows: (1) Reading; (2) Writing; (3) Needlework; (4) Arithmetic; (5) Music; (6) Geography.

XXV. NUMBER WHO ARE DEFICIENT IN DIFFERENT STUDIES.

	Boys—%	Girls—%
Reading	18	15
Spelling	18	14
Writing	16	11
Drawing	11	10
Arithmetic	14	7
Language	10	9
Music	11	7
Geography	8	7
History	5	5
Nature studies	4	5

Professor Lefevre found that the school studies liked least by French children were as follows: (1) Arithmetic; (2) Geography; (3) Drawing; (4) History; (5) Grammar; (6) Spelling.

Miss Stevens found that the most difficult studies for London girls, as reported by the girls themselves, were: (1) Geography; (2) Arithmetic; (3) Grammar; (4) Needlework; (5) Spelling; (6) Reading; (7) Writing; (8) Music.

Dr. Ferdinand Kemsies, who tested Berlin school children with the ergometer, found that the most fatigue producing studies were as follows: (1) Gymnastics; (2) Arithmetic; (3) Foreign language; (4) Scriptures; (5) Grammar; (6) Science; (7) Geography; (8) History; (9) Music; (10) Drawing (See Kemsies' "Arbeitshygiene der Schule," Berlin, 1898, p. 64).

XXVI. NUMBER WHO READ OUTSIDE OF TEXT-BOOKS.

	Boys—%	Girls—%
Excessively	5	7
Largely	7	8
Reasonable amount	23	26
Little	10	11
None	14	11

Professor Lefevre found that 62 per cent. of the boys and 70 per cent. of the girls tested by him were regular readers of books other than text-books.

Professor Bullock, who made observations on the use made by school children in Colorado of the public and school libraries at North Denver, Boulder and Colorado Springs, found that in Denver 92 per cent. of the third grade children use the school library and none the public libraries. In the fourth grade, 5 per cent. use the public libraries and that percentage gradually increases to 60 per cent. in the twelfth grade, while the percentage of those using the school library decreases to 12 per cent. in the twelfth grade. (His "Observations on Children's Readings" in N. E. A. Proceedings for 1897).

XXVII. CHARACTER OF BOOKS READ.

	Boys—%	Girls—%
Standard	11	12
Helpful	19	25
Trashy and vicious	3	3

Professor Bullock also reports that the number of trashy and vicious books read by Colorado children is comparatively small. He found that the standard and healthful books were furnished (1) by the school library and (2) by the public library and that the trashy and vicious books were supplied (1) by Sunday school libraries and (2) by home libraries.

XXVIII. ATTITUDE TOWARD SCHOOL AND WORK.

	Boys—%	Girls—%
Attached	32	41
Interested	47	55
Indifferent	15	9
Hostile	3	2
XXIX. SCHOLARSHIP		
Excellent	19	28
Good	35	37
Fair	19	18
Poor	8	5
Very poor	3	2

It would be interesting to know the divers standards of scholarship by which these children were tested. It is probable that their power to explain events by referring them to their causes, to discern the relation and qualities of objects and affirm these relations in facts, or to see in particular facts the general facts that they include was not made the basis of these estimates. Measured by such standards — the ability to think — as Monroe, Hancock and Mrs. Barnes have shown — boys very generally surpass girls.

On the other hand, the ability to retain and recall lessons, to remember facts and recite the same with readiness — the memory power — as Shaw and Hawkins have shown — girls uniformly surpass boys.

XXX. PARTICULAR TALENT.

	Boys—%	Girls—%
Special talent for some one thing	14	14
Special talent for no one thing	10	11
Aptitude for several things	17	22
XXXI. DOMINANT INTERESTS.		
Nature	19	20
Books	13	14
School work	13	12
Outside work	5	4
Recreation	9	6

But six of the teachers reporting mentioned the favorite books and songs of the children and but three the portions of arithmetic found most difficult and least difficult. These topics were important and it is to be regretted that sufficient data were not furnished for tabulation. The information furnished concerning the use made of memorial holidays was too meager and indefinite for collation.

GENERAL COMMENTS AND QUERIES.

It will be noticed that under certain general heads the aggregate of the percentages exceeds 100, and that in others the sum is less than 100. This is because in certain instances the same pupil is included in more than one of the sub-titles and, in other cases, some pupils are not estimated under any of the sub-titles used.

The figures seem to indicate that the nurture of the children's emotions has not received the attention its importance demands. The per cent. under this item, exhibits a condition that calls for the thoughtful attention of the teachers. Some day it will be better known that the feelings need culture quite as much as the intellect.

The figures on application and self-reliance are not encouraging. They show that too much has been done for the child and that he has been required to do too little for and by himself.

The record as to the manners of the children shows that there is ample opportunity for improvement and it is hoped that this testimony will result in greater attention to this subject.

Under the head of morals, habits and virtues, as well as regards training of the imagination, the returns indicate that there is still much work for the teacher to do.

Perhaps the most interesting item in this long list is the statement that, in the judgment of the teachers, 73 per cent. of the boys and 54 per cent. of the girls are possessed of more than average intellectual ability. Other parts of the record are clear upon the point that, in the matter of effort made and results achieved, the girls lead the boys in percentages too large to be pleasant reading. There must be some explanation for these figures. Are girls more faithful and industrious than boys, or have they a stronger sense of the necessity for being studious, or are they capable of doing more and better work during the childhood period, or are the boys indifferent because of associations and the unwholesome spirit existing in so many communities in relation to the value of the training given in school for those who are to engage in certain occupations?

These statistics bring the welcome assurance that art has an influential place in the schools. The talks given at teachers' meetings and the work done by the teachers in interpreting reproductions of masterpieces have borne fruit beyond the fondest anticipations of those who have sought to interest our people in this great branch of study. It is doubted if any other record, equally encouraging can be found in any other department of school work.

It is gratifying to be assured that the work in Nature study has produced such marked results in developing the powers of observation of the children.

There is reason for being hopeful for the boys and girls when so large a per cent. of them are credited with being energetic. It is possible that if a larger number were interested in physical exercises the list would be still farther increased.

It is to be regretted that nine per cent. of the boys and four per cent. of the girls have to be controlled by an appeal to fear.

Those who are interested in the future of these children would be glad if more than twenty per cent. of the boys and twenty-five per cent. of the girls excel in reading and were worthy of being ranked as clear in their use of English.

Teachers and parents would do well to reduce, if possible, the large percentage of both boys and girls who are classed as indifferent in their attitude toward the school and school work.

It must be surprising to most persons to learn that fourteen per cent. of both boys and girls have special talent, for some one thing and that nineteen per cent. of the boys and twenty-two per cent. of the girls show a talent for several lines of work or study.

When each school is provided with a library, then we shall have more than thirteen per cent. of the boys and fourteen per cent. of the girls who exhibit a marked interest in books.

No one can study these figures without noticing that the girls lead the boys in desirable qualities and that the boys more largely rank the girls in particulars which reflect discredit upon school children. The almost unanimous testimony of teachers on these items makes pertinent the following queries:

First: Do the figures fairly represent the facts?

Second: Are boys less interested in school work than girls because they are in so few instances taught by men?

Third: Do women judge boys fairly?

Fourth: Do boys develop more slowly than girls and are they less willing to work?

Fifth: Are our courses of study better adapted to the needs of girls than they are to the necessities of boys?

Sixth: Are girls more industrious than boys because they are told so frequently they are not as brainy as boys?

Seventh: Have athletics had anything to do with lessening the interest of boys in school work?

Eighth: Is the instruction more attractive to girls than boys?

Ninth: Should not parents, school officials, and teachers make a careful study of these figures for the purpose of determining what changes are needed in school administration, teaching force, subjects of study, and methods of instruction?

Maine. W. W. STETSON.

CLASSIC ANTIQUITY.

Life in Ancient Greece. III.

BIRTH AND TREATMENT OF INFANTS.

When a child was born in the house, it was usual in Attica, and probably elsewhere also, to hang a wreath of olive in case of a boy, a fillet of wool in case of a girl, over the door. This served as an announcement to friends and neighbors. Greek law permitted the parents absolutely to dispose of it as their property, and there was no provision against exposing it, which was often done in the case of girls, in order to avoid expense. These exposed children if found and brought up, became the slaves of the finder. But on the other hand, the laws showed special favor to the parents of large families.

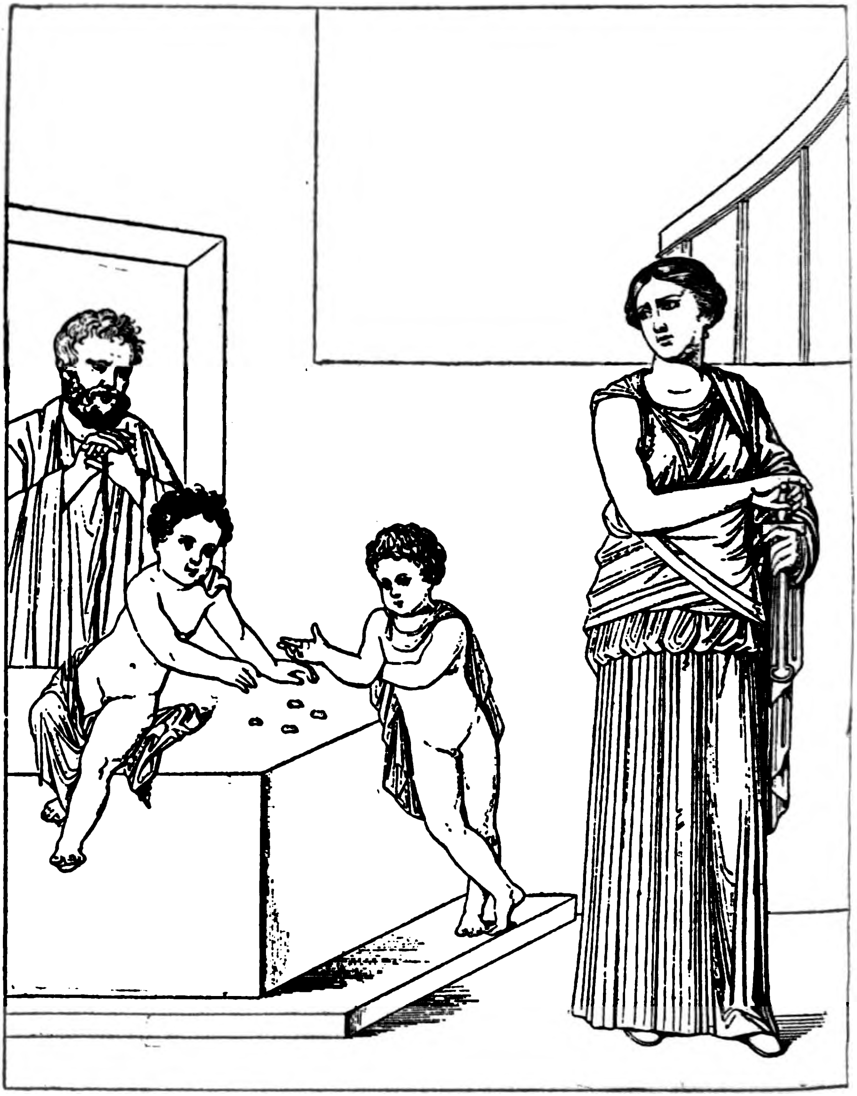
If a child was not exposed, there followed on the fifth day a solemn purification of all the people in the house, and on the seventh a sacrifice, when the relations assembled and the child was named, generally after parents and grand-parents, sometimes by reason of special wants or fancies—in fact on the same principles which we follow in christening our children. There is no evidence until the later Macedonian times that birthday feasts were held yearly: and Epicurus' direction that his should be kept after his death was thought very peculiar.

Children of rich people were often nursed by hired nurses—an employment to which respectable Athenian citizens were reduced in the hard times at the end of the Peloponnesian war. But a Lacedæmonian nurse was specially valued, and often bought at a great price among prisoners, as they were famed for bringing up the child without swaddling-clothes, and making him hardy and courageous.

The Greeks used cradles for children as we do, and gave them honey as we do sugar, and the nurses represented on the vases are distinguished by a peculiar kerchief on the head, as they often are in our day by a cap or national costume.

TOYS AND GAMES FOR CHILDREN.

As might be expected, the inventive genius of the Greeks showed itself in the constructing of all manner of toys, and children devised for themselves perhaps all the games now known and many more besides. Aristotle says you must provide them with toys, or they will break things in the house, and the older philosopher Archytas was celebrated for inventing the child's rattle. Plato also complains of the perpetual roaring of younger, and the mis-



Media and her children.—From a Pompeiian hall painting.

chieveousness of older, children. We may infer from these things that the Greek boys were fully as troublesome as our own. They had balls, hoops, swings, hobbyhorses, and dice, with dolls for the girls, and various animals of wood and earthenware, like the contents of our Noah's arks. They played hide and seek, blind man's buff, French and English, hunt the slipper, the Italian *morra*, and many other games which the scholiasts and Germans have in vain endeavored to explain.

For grown people, we do not find many games, properly speaking, played for the game's sake. There was very simple ball playing, and, of course, gambling with dice. Of gymnastic exercises I will speak separately.

GREEK EDUCATION GENERALLY.

As for the girls of the house, they were brought up to see and hear as little as possible. They only went out upon a few state occasions, and knew how to work wool and weave, as well as to cook. We may fairly infer that the great majority of them could not read or write. The boys, on the contrary, were subjected to the most careful education, and on no point did the Greek lawgivers and philosophers spend more care than in the proper training, both physical and mental, of their citizens. The modern system, however, of public school training was not practiced anywhere save at Sparta, where a state schoolmaster was appointed, and all the Spartan boys taken out of the control of their parents. They lived together under the care of elder boys, as well as masters, so that the system of monitors, and even that of fagging, was in ordinary practice. They were encouraged to fight out their disputes, and were much given to sports and athletic amusements, just like our school boys. But the public-school training and discipline lasted much longer at Sparta than among us, and embraced the university period, as well as the school period, of life.

In the other states of Greece, which were chiefly towns, or suburbs of towns, the system of day schools was universal, and the boys went to and from home under the charge of a special slave, chosen because he was no longer fit for hard work. He was called the boys' leader, or pedagog, a word which never meant schoolmaster among the Greeks, tho it is so rendered in our English Bible (Gal. iii. 24).

The discipline of boys was severe, and they were constantly watched and repressed, nor were they allowed to frequent the crowded market-place. Corporal punishment was commonly applied to them, and the quality most esteemed in boys was a blushing shyness and modesty, hardly equalled by the girls of our time. Nevertheless Plato speaks of the younger boys as the most sharpwitted, insubordinate, and unmanageable of animals.

SCHOOLS AND SCHOOLMASTERS.

It does not seem that the office of schoolmaster was thought very honorable, except of course in Sparta, where he was a sort of minister of education. It was, as with us, a matter of private speculation, but controlled by police regulations that the school should open and close with sunrise and sunset and that no grown men should be allowed to go in and loiter there.

The infant-school teachers, who merely taught children their letters, were of a low class in society, sometimes even teaching in the open air, like the old hedge schoolmasters in Ireland. The more advanced teaching of reading and writing was done by the *grammaticos*, whose house was called, like that of philosophers and rhetoricians, *schole*, a place of leisure. For the physical and the æsthetic side we have to mention the trainer (*pedotribe*) and the teacher of music, the former of whom taught in the palæstra the exercises and sports afterwards carried on by the full-grown citizens in the gymnasia, which were a feature in all Greek towns.

Greek checker players.—A group in clay.

The teachers of riper youth stood in social position above the mere teachers of letters, but beneath the professors of rhetoric and philosophy (sophists). These latter performed the functions of college tutors at our universities, and completed the literary side of Greek education.

The fees paid to the various teachers were in proportion to their social importance. Some of the sophists made great fortunes, and exacted very high fees; the mere schoolmasters are spoken of as receiving a miserable pittance.

The Greeks never thought of making foreign languages a matter of study, and contented themselves with learning to read and write their own. In so doing the schoolmasters used as text-books the works of celebrated epic or elegiac poets, above all Homer, and then the proverbial philosophy of Hesiod, Solon, Phocylides, and others, so that the Greek boy read the great classics of his language at an early age. He was required to learn much of them by heart, especially when books were scarce; and his teacher pointed out the moral lessons either professedly or accidentally contained in these poets. All this was grammatic, which with music and gymnastics made up the general education of the Greeks. It excluded the elementary arithmetic of our "three R's," and included what they do not, a gentlemanly cultivation in music and field sports. It is very doubtful whether swimming was included, tho Herodotus speaks of the Greeks generally as being able to swim. There is, however, evidence that from the fourth century B.C. onwards both elementary geometry and arithmetic, and also drawing, were ordinarily taught.

As regards music every Greek boy (like modern young ladies) either had or was supposed to have a musical ear, and he was accordingly taught either the harp or the flute, and with it singing. Here again the lyric poems of the greatest poets were taught him, and the Greek music always laid the greatest stress on the words. Aristotle and others complain that amateurs were spending too much time on the practicing of difficult music, and we know from the musical treatises preserved to us that the Greeks thought and taught a great deal more about musical theory and the laws of sound than we do.

The Greek tunes preserved are not pleasing, but we know that they used the strictest and most subtle principles in tuning instruments, and understood harmony and discord as well as we do. Great Athenians, like Cimon, were often able to sing and accompany themselves on the harp, or lyre as we should rather call it. The

Greeks laid great stress on the moral effects of music, especially as regards the performer, and were very severe in their censure of certain styles of music. They distinguished their scales as *modes*, and are said to have put far greater stress on keys than we do, calling some manly and warlike (Dorian), others weak and effeminate, or even immoral (Mixo-Lydian). The modern Chinese have the same beliefs about the moral effects of music. The Greeks had their keynote in the middle of the scale, and used chiefly the minor scale of our music. They had different names and signs for the notes of the various octaves which they used, and also different signs for vocal and for instrumental music.

GYMNASTICS.

Among the various exercises taught were those in fashion at the public contests in the games—throwing the discus, running, and wrestling, and those of use in war—throwing the dart, managing the sword and shield, and riding. Boxing was not highly esteemed, and seems not to have been properly understood by the Greeks, who would have had no chance against a modern prize-fighter.

Greek "Pick-a-Back."—As shown on a vase.

The severest contest was the *pancration*, where the combatants, who were naked and unarmed, were allowed to use any violence they liked to overcome their adversary. It was therefore a combination of boxing, wrestling, and kicking, with occasional biting and gouging by way of additional resource.

We hear of a wonderful jumping feat by Phayllus of Croton, who leaped forty-four feet; but as he probably jumped down-hill, and used artificial aids, we cannot be sure that it was more than can be done now-a-days. The Spartans specially forbade boxing and the pancration, because the vanquished was obliged to confess his defeat and feel ashamed; and they did not tolerate professional trainers.

All the special exercises for developing muscle practiced in our gymnasia seem to have been known, and they were all practiced naked, as being sunburnt was highly valued. The Greeks smeared themselves first with oil and then with sand before their exercises, and cleaned themselves with a scraper or *strigil*, or in later days by taking a bath.

CUSTOMS ON COMING OF AGE.

Most Greek states seem to have wished to free young men as soon as possible from the control of their parents. Hence, having passed the age of boyhood, when they were called children, they were made epheboi, or " men of age," at the age of sixteen or eighteen, when they were enrolled solemnly in the list of citizens. This was done at Athens with a religious service, and with a solemn oath on the part of the youth, who declared his allegiance to the laws and to the religion of his city, and promised to defend it against all enemies and seditions. He was then enrolled on the list of his deme or parish, and was competent to join in debate at the assembly, to plead in court, to marry, and perform all the duties of citizenship. It is not clear how he stood as regards his father, except that, if the latter became unable to manage his affairs, the son could have him so declared by an action in court, and so become the owner during his father's life. Before the young men settled down, they were employed for two years in outlying garrison duty and in patrolling the frontiers of the land. This gave them the necessary training for war, and made them acquainted with the bounds of their country. Many remains of these frontier forts which were once garrisoned by the youth of Athens still survive in Attica.

THE SERVANTS OF THE HOUSE.

These were of course slaves, with the exception of some field-laborers, and of nurses in times of depression and distress, when some free women went out for hire. To these cases we may add the cook, who was not an inmate of the house before the Macedonian time, but was hired for the day when wanted for a dinner party. All the rest were slaves, and were very numerous in every respectable household. The principal sorts of servants were as follows: there was a general steward; a butler who had charge of the storeroom and cellar; a marketing slave; a porter; baking and cooking slaves for preparing the daily meals; an attendant upon the master in his walks, and this was an indispensable servant; a nurse, an escort for the children; and a lady's-maid. In richer houses there was also a groom or mule-boy. This list shows a subdivision of labor much like the habits of our East-Indian families.

If faithful, the slaves were often made free, especially by the will of their master on his death-bed, but they did not become citizens. They remained in the position of resident aliens under the patronage of their former master or his representatives.

In proportion as the free population of Greece diminished the freeing of slaves became more and more common, until it actually appears to have been the leading feature in the life of the small towns. Thousands of inscriptions recording this setting free of individual slaves are still found, and on so many various stones, even tombstones, that it almost appears as if material for recording had failed them by reason of the quantity of these documents. The same increase of liberation was a leading feature in the Roman empire, but there the freedman obtained the right and position of a citizen, which was not the case in Greece. The most enlightened

Girls writing.—From a Pompeiian wall painting.

moralists of both countries exhorted benevolence towards slaves, and the frequent freeing of them as the duty of humane masters, but none of these writers ever dreamt of the total abolishing of slavery, which they all held to be an institution ordained by nature. This seems also the view of the early Christian writers, who nowhere condemn the principle of slavery as such.

THE DOMESTIC ANIMALS.

These were first the horses and mules, which do not seem to have been treated with any great familiarity, but were carefully groomed, and after exercise were allowed to roll in sand before being brought in—a treatment still common in Southern Italy, where the old Greek fashion of driving four-in-hand abreast also prevails. The two center horses were yoked to the pole, the others were fastened by loose traces, and called outriggers. The commonest and most valued domestic animal was the dog, which maintains a very important place in Greek society up to the present day. There were various kinds of breeds for hunting, chosen both for nose and for speed; there were watch-dogs; and also ornamental kinds, such as the little lap-dogs, which are represented in the sad scenes of leave-taking on the tombs. Many anecdotes are told of their faithfulness. Cats were also common, so common as to be charged with the breaking of household ware by guilty servants, and they are often described as wandering along the roofs of houses. Sundry birds were kept in cages, and for ornament, such as pheasants and peacocks; the quail was used for combats corresponding to English cock-fights.

CUSTOMS OF BURIAL.

At the moment of the death-struggle the face was veiled, that no man might see it; then it was uncovered for a moment to close his eyes and mouth. The body was then washed by female relatives, scented with unguents, dressed in white and with a garland, and placed upon a couch adorned with branches, and with an unguent-bottle beside it. This laying out was done in the entrance-hall of the house, and the feet were turned to the door. Outside was a cypress branch and water for sprinkling those who came out, as the dead defiled the house and its inmates. The laying out was limited to one day, during which both male and female relatives, together with hired mourners, stood round the bier, and uttered laments in refrain very like the *Irish cry* of our day. This almost universal custom in Asia was discountenanced and restricted by Greek lawgivers, especially the tearing of the hair and laceration of the face which accompanied it.

Burial took place in the morning dawn, before the sun could shine upon the corpse; in later days a small coin was placed in his mouth to pay his passage in the nether world—a custom which still survives in some parts of Greece. In the funeral procession the male relatives went before, the female followed after, and in Athens and other places where women lived secluded only aged women and near relatives were allowed to attend, as young men took this opportunity of seeing the ladies, who were at other times invisible.

When the dead was laid in the tomb, he was called by name aloud, and farewell was bidden him. There was afterwards a funeral feast, and offerings at the tomb, but the time of mourning and of wearing black or gray garments was short; in Sparta twelve days, at Athens a month; at Ceos, exceptionally, a mother mourned her growing son for a whole year.

Praising speeches were not delivered over private persons as at Rome, but only in the case of a public funeral, such as that of the bones of the dead who had fallen in battle, and were burned on the battle-field. These ashes were brought home in urns, and treated as the corpses of the dead would have been at home. The burning of the dead, tho known early, and often practiced in war and travel, was decidedly the exception. To cast earth upon the dead was of the last importance, and even when the body could not be found an empty grave received the due honors.

SEPULCHRAL MONUMENTS.

In the oldest times the dead were buried in their own ground, and close beside the house they had occupied. Afterwards the burying of the dead within the walls of cities was forbidden except in the case of great public benefactors, who were worshiped as heroes and had a shrine set over them. The rest were buried in the fairest and most populous suburb, generally along both sides of the high road, as at Athens and at Syracuse, where their tombs and the inscriptions occupied the attention of everyone that passed by.

The oldest and rudest monuments placed over the tomb were great mounds of earth, then these mounds came to be surrounded by a circle of great stones; afterwards chambers were cut underground in the earth or rock, and family vaults established. Handsome monuments in marble, richly painted and covered with sculpture, were set up over the spot. These monuments sometimes attained a size almost as great as a temple. The scenes sculptured on the marble were from the life and occupation of the deceased, more often parting scenes, where they were represented taking leave of their family and friends, nor do we possess any more beautiful and touching remains of Greek life than some of these tombs.

In the chamber of the dead many little presents, terra-cotta figures, trinkets, and vases were placed, nay, in early times favorite animals, and even slaves or captives were sacrificed in order to be with him; for the Greeks believed that tho the parting with the dead was forever, he still continued to exist, and to interest himself in human affairs and in pursuits like those of living men.

The crowded suburbs where the tombs were placed were generally ornamented with trees and flowers, and were a favorite resort of the citizens. The dead bodies of executed criminals were either given back to their relations or, in extreme cases, cast into a special place, generally some natural ravine or valley hidden from view and ordinary thorofare. Here the executioner dwelt, who was generally a public slave. This place was called *barathrum* at Athens, and *Ceadas* at Sparta.

PUBLIC LIFE OF THE GREEK CITIZEN.

The aristocracy of the older Greek society was one based on the exclusive owning of land and of civic rights, and was not marked by titles, but by the name of the clan. Thus at Athens an Alcmæonid was respected much as the member of an old Scottish clan is now by his fellows. But poverty injured the position of the old Greek more than that of the Scotchman. In the aristocratic days all work in the way of trade or business was despised by the landed gentry, and idleness was called the sister of freedom. In such states (as, for example, in Sparta) the pursuit of a trade often disqualified a man from political rights, and in any case, deprived him of all public influence. This feeling did not die out even in the complete democracies of later days, and there was always a prejudice in the Greek mind against trades and handicrafts, because they compelled men to sit at home and neglect the proper training of the body by sports, and the mind by society. Mercantile pursuits (emporia) were also objected to by Greek gentlemen, but on different grounds. It was considered that the making of profits by retail trading was of the nature of cheating, and the life of a merchant in any Greek city not his own was always one of dependence and fear, for nowhere were aliens treated with real justice and liberality. Thus even the poor citizen of Athens, living by the small pay (10 cents a day) given him for sitting on juries, and performing other public duties, looked down with contempt upon the rich tradesman, who was confined all day to a close, dark shop, or still worse, did his work in the hot atmosphere of a furnace.

University of Dublin. J. MAHAFFY.

HISTORY OF ART.

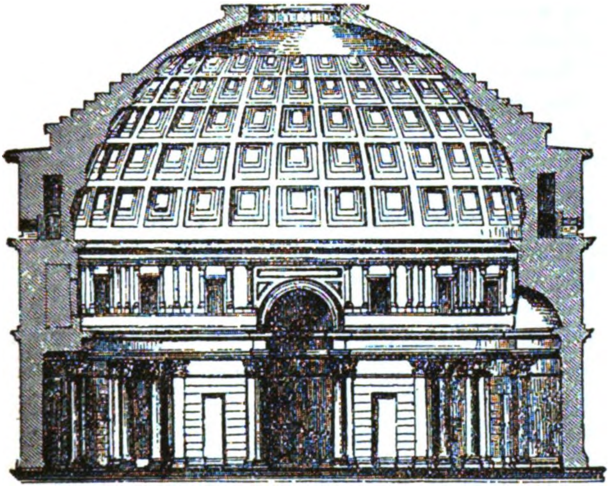
Roman Art. II.

OUR visit to the Greek and Roman houses at Pompeii has shown us the beauty of ancient art even in everyday life. Everywhere are found evidences of complete union of beauty with convenience; everything, down to the commonest object, is not only beautiful in form and decoration, but by its form and decoration is admirably fitted to fulfil its purpose. This is most completely carried out in the Greek house. In the Roman, the most striking feature was the respect paid to ancestors and the sanctity which was imparted to the family life by the domestic worship of the gods. The house is the expression of the spirit of the inhabitants, just as dress is the expression of the character of the individual. It is not a matter of indifference to us what pictures and utensils have surrounded us from the moment of our first entrance into the world, and have occupied our attention in childhood. Little as our own houses have in common with ancient houses in architecture and other respects, we can nevertheless grasp this central idea and apply it to the conditions of our own life.

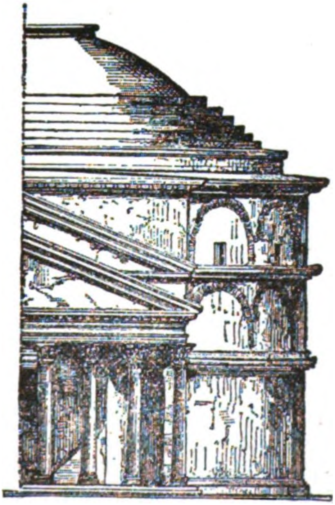
The grand composition of the battle of Issus, reminding us of the victory of European culture over Asiatic despotism, brings us back into the wider stage of the world. It catches the central moment of the battle, and brings out the grandeur of the individual in the midst of the confusion and terror of the fight. We are lifted above the terrible details and are conscious of a higher power invisibly working for the good of both race and individual.

Let us approach Rome, the capital of the world, the queen of the cities of all ages. Here where the Appian Way leaves the Alban Mount let us look about. The broad Campagna, the tomb of countless flourishing cities, lies at our feet; on the one side it is bounded by the sea, on the other by the lofty Sabine, Volscian and Alban mountains. Wonderfully beautiful in its picturesque undulation, solemn in its autumnal stillness, it seems like a grand elegy on the glory that has here perished. The setting sun produces magic tones in the autumnal brown, which change again and again ere it sinks into the sea. On our right there stretches an aqueduct with its two stories of vaulted arches—a grand work.

The Romans were the first successfully to apply the vault, invented by the Etruscans, to important architectural purposes, and to forsake the straight lines of the Grecian temple. Like the vault of heaven, which is the type of the dome, Rome overshadowed the people of the world. With astounding skill she succeeded in establishing her conquests, and in promulgating laws which formed a bond of union between peoples widely differing in race, language and character, and which still form the basis of the existing law of



The Pantheon at Rome.



The Pantheon (Facade).

almost every European nation. Whatever the task she undertook, small or great, she achieved by the force of her iron will.

During a campaign, a girl in the Sabine mountains gave the general a draught of excellent water. Immediately the spring was carried to Rome by an aqueduct forty miles long which has remained to the present day. It is still firm and solid as if built to endure for eternity. The pavement of the road to Lower Italy constructed by the consul Appius, and bearing his name, shows no indication that it is over two thousand years old. Like a long, broad band, this road, studded with tombs, stretches thru the Campagna. The oldest of these tombs, that of Aruns the son of Porsena, but traditionally dedicated to the heroic Horatii, rises in five conical turrets upon a rectangular base in the ancient Etruscan style. For many miles this row of tombs of all forms and sizes, now partially or entirely destroyed, stretches along the Appian Way, and shafts of columns and capitals lie scattered around. A few towers better preserved, are still standing, and were utilized as fortresses during the middle ages. Now many are occupied by peasant families. All, especially those of the time of the emperors, tell of a people who sought their highest good in glory, and who liked to be reminded of their great dead in the midst of the bustle of the highway.

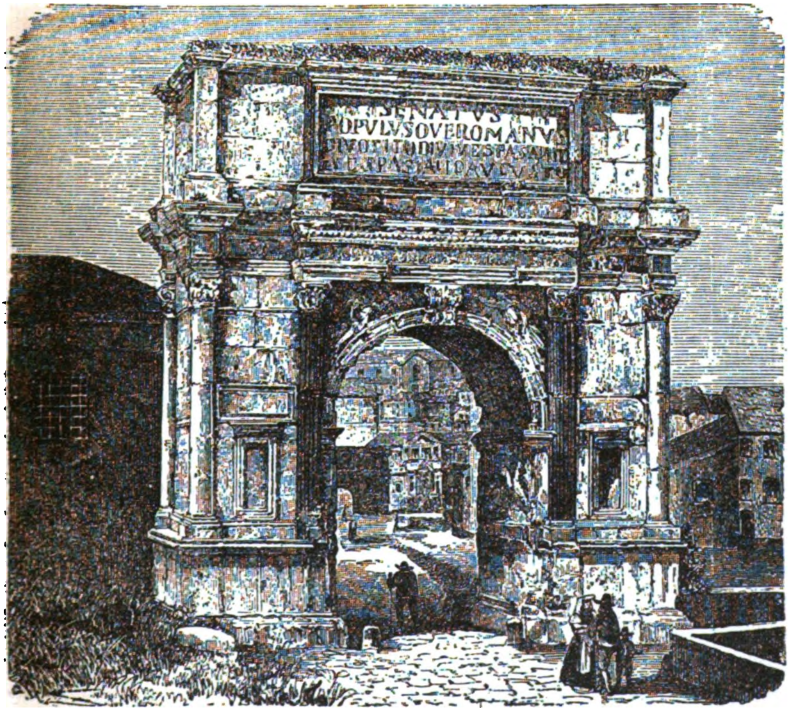
Among the vineyards and gardens nearer Rome simpler tombs, called Columbaria, are seen. They have niches all round the walls, in which were preserved the vases containing the ashes or bones of the dead. The family tomb of the Scipios consists of a deep vault. The walls, in which are the openings for the cinerary urns, bear inscriptions, and in some places simple paintings and reliefs.

The most colossal of all the tombs in Rome itself is on the south side of the Tiber; it is that of the Emperor Hadrian.

The conquered Greeks had given the Romans more than their little land, they had given them their art and learning. Not until the time of Augustus did the imperial city, hitherto, in part at least, timber-built and straw-roofed, transform itself into a marble city whose ruins tell us of the mighty spirit of the ancient Rome.

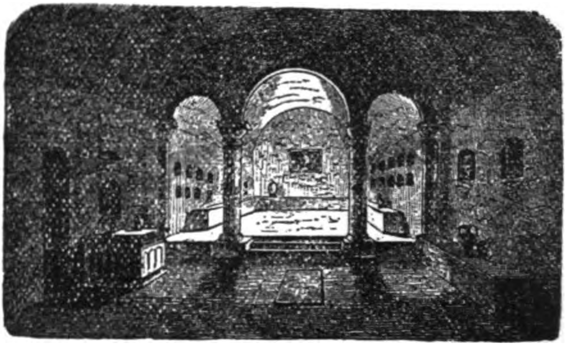
The giant dome of the Pantheon, with its Grecian portico and Roman circular cella, stands in the middle of a small piazza surrounded by modern houses and churches, and shows us Roman art at its height. The temple stood originally on a platform of seven steps, now covered. In the triangle of the Greek pediment the war of the Titans with Zeus attracts our attention. We might think ourselves back in Greece. Two circular arched niches in the back wall, containing statues of Augustus and Agrippa, remind us that we are in Rome. As we pass thru the vestibule into the huge rotunda, and see how grandly its vault rises above us, forming a majestic dome firm as the solid rock out of which its stone was hewn, we find the character of the Roman people expressed in this building.

The loudest noise in the street outside inaudible in this vast building, which in its majestic silence and strength seems destined to stand as long as the world shall endure. Eight large niches, whose stone arches are supported by yellow columns with Corinthian capitals, form the sanctuaries where stood the statues of the chief gods of Olympus. Above these niches smaller recesses and half-columns repeat the harmony of the lower circle, and support the cornice out of which the vaulting of the dome springs. The dome itself depends for its effect on its form and structure rather than on the deep coffers and the bronze flowers which formerly adorned it. Its summit is pierced by a single aperture, 25 feet in diameter, thru which the sunlight streams in a broad beam, shedding a great circle of light on the porphyry and marble floor. So vast is the elevation



The Arch of Titus, at Rome.

that neither cold, heat nor tempest produces any effect thru this opening. The rain falls vertically and slowly thru it, making a circle of moisture on the floor. There is but a single entrance from the portico.



Interior of a Columbarium.

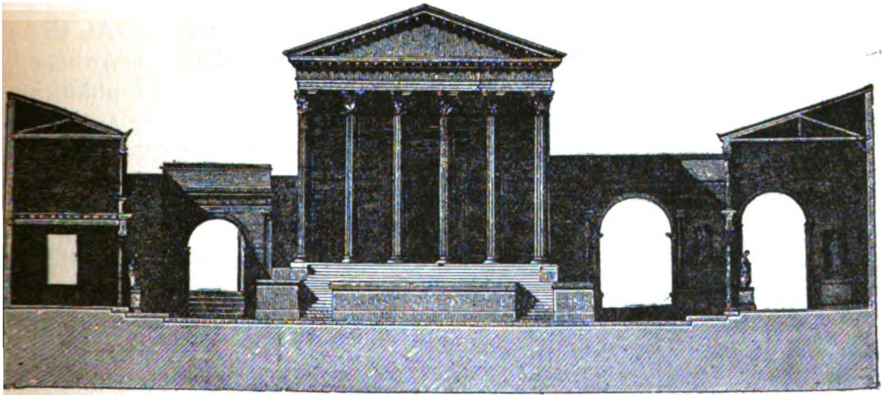
How great is the contrast between the Greek portico and the Roman rotunda! Each is beautiful in itself, but the two do not belong together.

Agrippa, the great general of Augustus, who founded the Pantheon, intended it originally as a part of a grand public bath for the people. Later, its surprising beauty led to its dedication to the gods. Still in good preservation, it is one of the most beautiful buildings in Rome. To the circumspect Agrippa, who gave Augustus such good advice for the benefit of the Roman people, Rome also owes the grand aqueduct from the Sabine mountains, the arches of which we were recently admiring. To this very day one of these springs spurts out of the magnificent triton fountain of the Aqua Virginia, and many a stranger takes one last draught from it before departing, that he may, according to the popular superstition, see Rome again. One hundred and thirty water towers formerly distributed an immense volume of pure water over the city, 700 tanks were used by the washerwomen, and 400 marble columns marked the many wells. Even in their ruins they show their beauty. The bridges were designed on the same grand scale. Later architects labored in vain, after a destructive flood, to restore them on the original plan.

Let us take a look at the Theatre of Marcellus, the first built at Rome, the grand vaulted arches of which are now used for workmen's dwellings. These vaults supported the auditorium, which did not, as in Athens, rest on a hill-side. Doric and Ionic pilasters adorn the pillars of the vaults, and combine Greek grace with Roman grandeur.

But first let us turn our steps to the Forum, the simple market-place of ancient Rome, with which, however, so many memories are connected that it is imposing merely by force of them. The more we study the history of this great city and understand its significance, the stronger will be the interest that every detail of this historic site will have for us. In coming from the Pantheon we have ascended and descended the Capitoline Hill. A world of ruins lies at our feet, the fragments of the buildings of many centuries.

At the time of Augustus the Forum was already surrounded by temples and marble buildings, with statues and porticos in which the spectators were stationed at the time when the circus was held here. Later, new buildings arose, especially upon the Palatine, the hill which stretches away on the south side of the Forum, and which was the cradle of the oldest legendary Rome; upon it stand the houses of Livia and Cicero, the golden palace of Nero, and the other imperial buildings of fabulous splendor, the remains of which are still to be seen in mighty arches and subterranean chambers. Marble columns and frescoes are also still visible. Almost all the columns we find here have Corinthian capitals, the foliage of which is surmounted by volutes. The principle of the development of the capital out of plant form is thus ignored. The shaft is slighter, and frequently without flutings (Tuscan).



North Side of the Temple of Jupiter at Pompeii.

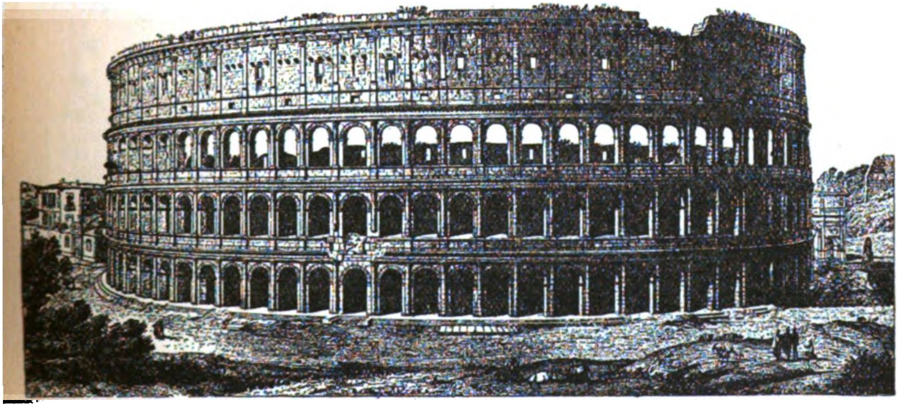
The Capitoline Hill stands immediately above the Forum, rising steeply from it into two flattened summits, on one of which stands a venerable Etruscan temple dedicated to Jupiter, Minerva, and Juno, ornamented in gold and rich colors, with an uncouth statue of Jupiter; on the other the splendid, but overdecorated, temple of Jupiter erected by Augustus. In the hollow between the two lay a broad, beautiful, and graceful building, the Treasury. Below the Treasure House, standing out into the Forum, we see the orator's pulpit of yellow marble, adorned with the prows of ships.

Once, a word spoken from this place could determine the fate of the world. At a little distance hence the spot is pointed out where Julius Cæsar was murdered. A second large pulpit stood by the temple of Vesta, in front of the Julian Basilica. This Basilica (Court of Justice), begun by Julius Cæsar and completed by Augustus, we will look at rather more closely. Two rows of columns divide a spacious building into three naves. At the extreme end is a round apse containing an elevated tribune, where the matters in dispute were discussed and settled. Such buildings we find in all places where markets were held, even where smaller household requirements were sold, which was not the case in the Forum Romanum. The side aisles were often provided with galleries, the backs of which were supported by small pilasters. Cæsar and Pompey vied with each other in providing them with splendid decoration in the way of statues and reliefs. These buildings were a worthy monument of the respect paid by the Romans to the law, and the value they set on the study of jurisprudence; to us they are interesting from an entirely different standpoint; for, as we shall presently see, they exercised a great influence on the development of Christian church architecture.

We wander along the foot of the Palatine to the Arch of Titus. This is the Via Sacra along which the proud triumphal processions used to pass on their way to the Capitol. The triumphal arch is that dedicated to the conqueror of Jerusalem. Its Greek pilasters have Ionic volutes between the acanthus leaves of the Corinthian capitals. The reliefs within and without show realistic figures, noble and dignified, but still scarcely idealized at all. We see the victor entering, led by the goddess Roma, surrounded by citizens and warriors, on a car drawn by four high-mettled horses: the goddess of Victory confers on him his well-earned crown. On the other side the spoils are being carried in procession, among them the seven-branched candlestick and the ark of the covenant.

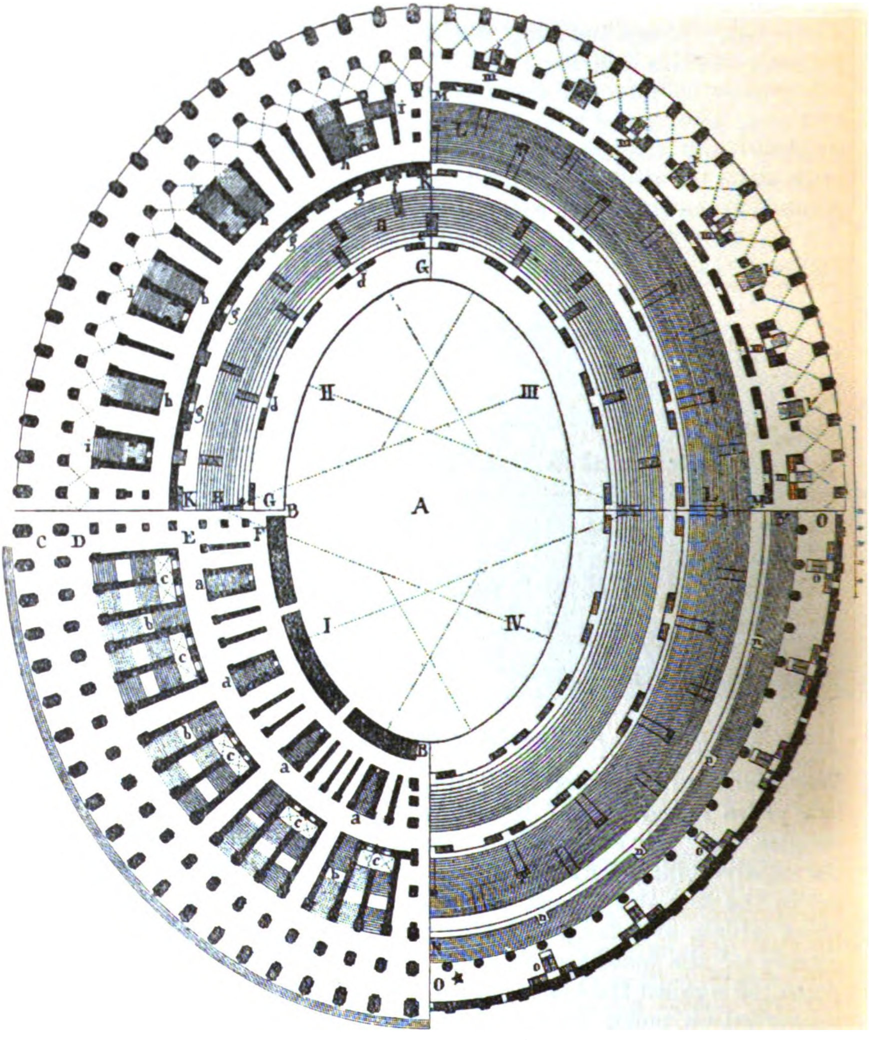
In this we see Roman sculpture at its best. The striving after pure naturalism is also shown in the lofty column with which the noble Emperor Trajan adorned his Forum. The story of his life is faithfully told on a broad band of relief coiled round it, especially his achievements against the Dacians. How simply, naturally, and characteristically are the passions of the combatants and the prayers of the wives and children of the vanquished portrayed. Many touching stories are told of the kindliness and humanity of this emperor.

Hence we turn our steps to the round, purely Roman temple of Vesta, surrounded with Corinthian columns. Here white-veiled maidens tend the sacred and eternal fire of the hearth which symbolized the sanctity of family life. In the service of the chaste goddess Vesta they have renounced the blessings of love and home, and are held in high honor. Further on rises a building like a caverned rock. It is the amphitheater (Colosseum) begun by Vespasian and completed by Titus, who during his short reign of two years raised himself this eternal monument. Three rows of arcades, one above the other, surround the immense circle. On the massive pillars between these arcades, Doric half-columns stand out in the first story, Ionic in the second, Corinthian in the third; above which, at a height of 200 feet, lofty pilasters support the cornice of the building. Roofless like the Greek theater, it was protected against the blazing sun by a tent-like awning (*velarium*) supported on poles, the sockets for which can still be seen. We wander round this colossal building, looking at its arcades with ever-increasing pleasure, and enter the interior thru one of its 300 entrances. A fabulous splendor is displayed in the amphitheater adorned with statues and columns. Three tiers of seats correspond to the external stories. Eighty thousand men are



The Colosseum at Rome.

seated there, watching with feverish attention the arena below, into which the wild beasts are springing forth from their cages to enter into an unequal contest with wretched slaves and Christians.

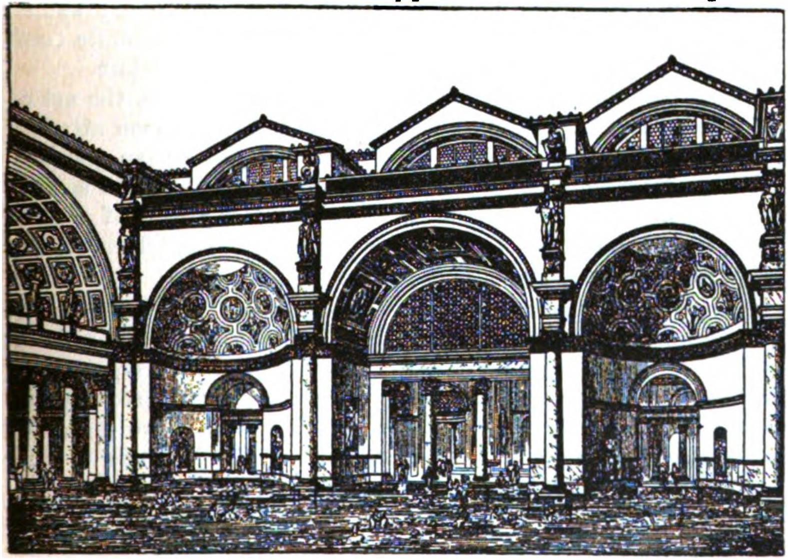


Ground Plan of the Colosseum.

The beauty of this indescribably grandiose building makes us at moments forget its purpose; but it is not possible to blot it entirely from our mind if we bring with us to Rome and its monuments some knowledge of the scenes of history and of their significance.

Let us now turn to a group of buildings which, in splendor and extent, surpass everything else that Rome has to show us. The luxury of the baths, which at first merely fulfilled a necessary purpose, grew by degrees to a fabulous height, and weakened body and soul by the increased temperature and other refinements of luxury. The effeminate and inhuman Emperor Caracalla, who murdered his brother in the arms of his mother, and disgraced his reign with a continuous series of crimes, sought to conciliate the pleasure-seeking Romans by the foundation of baths like these.

In the beginning of the third century after Christ, if we ascend the Cœlian Hill, near the Via Appia, we see before us a splendid two-storied square building, surrounded by plane-trees. Above the center of it a majestic dome rises into the blue sky. To the south a somewhat lower building projects from it on one side only, forming a pleasing contrast with the main body. The whole is surrounded and shaded by a pleasant garden.



Baths of Caracalla at Rome.

Before descending the hill to examine the building we involuntarily pause to enjoy the view. To the south lies the Via Appia, with its tombs and columbaria of the old days of the republic—the first characteristic features of Rome that met our eye. Then we entered Rome and enjoyed the simple, beautiful, and suitable buildings of the time of Augustus. But how these marble palaces, with which the first emperor replaced the low timber and brick houses, have sprung up around us! With higher and higher facades they have risen, like Aladdin's palace. On their flat roofs gardens bloom, not merely with the rarest flowers, but with high trees—oranges, myrtles, and planes. Thence the eye sweeps over the majestic city and the paradise of the Campagna, to the crown of blue mountains and the silver streak of the Mediterranean. Over there on the Pincian the gardens of Lucullus stretch far away, with their villas, extending the architectural taste into the landscape in regular beds, trim trees, straight avenues, groves and grottoes, which in Italy certainly bring the houses and gardens well into harmony with the outlines of the hills. This taste, unfortunately, grew more and more artificial. Native beauty was no longer sufficient; all quarters of the world had to contribute fresh luxuries to satiate the æsthetic craving as well as the palate.

With the Egyptian, Persian, and Indian religions, the art of these lands was also introduced. Ridicule and satire soon attacked these excesses, as they had attacked the faith in the Roman gods and in foreign philosophies, and destroyed this stimulant amid sensual enjoyments. An attempt was made to stem the tide of riotous luxury by the adoption of a Spartan serenity and indifference, but it only extended to individuals.

Reaching the baths themselves, we stand lost in wonder before a row of majestic columns in red granite, in the middle of which a flight of white marble steps leads up to a portico. Upon these columns rests the second story of the palace, which surrounds the exterior of the baths. To the right and left we see two flights of marble steps before us, an endless number of antechambers adorned with paintings and swarming with slaves. They have accompanied their masters, bringing his countless requirements for the bath in proud procession, and are waiting for his return from the entertainments of the bath, which often thrust its principal object into the background. A lofty vaulted passage leads us thru a broad open space of plane-trees into the interior. Here are said to be 16,000 marble seats beneath the shade of the spreading trees. Then we pass thru a long series of chambers to the left, looking back at the corresponding part on the other side, and stand before a wonderfully beautiful round outbuilding, which is open towards the plane-trees, and forms a semi-circular tribune with marble seats. From this we pass along a long passage to a crescent-shaped portico. Here we see old and young in the midst of a spacious hall (*stadium*) of marble and stucco, amusing themselves with various games of ball. Another large hall and two small ones follow. In these, sophists and orators interchange their opinions and writers read their works. At the back of the building is a large space surrounded by plane-trees and flower beds. Here in motley crowds traders and artists throng the broad paths to serve the requirements of the pleasure-seekers.

But where shall we find the baths? From the middle of the large piazza we can at least see the two-storied water reservoir, approached by a huge staircase, and the extensive arrangements for carrying the water to the baths. To the left are rooms for the attendants who look after the bath, and at last, in the middle of the plantations, two antechambers with mosaic pavement and marble walls catch our eye. Then we enter the dressing-room, and thru this the great open hall of the cold bath (*frigidarium*). The marble swimming tank has not the extent of that of Diocletian in which a thousand men could bathe at once, while 3,000 dressing-rooms were at their service, but it is so charming that one might think it a resort of gods and nymphs. Thru the clear crystal water the glorious colors of the marble bottom are reflected. On the walls Tritons beckon. A number of other smaller covered rooms surround the large hall, and are decorated with bright and lively arabesques and frescoes.

NERO·CLAVDIVS·DRVSVS·GERMANICVS·IMP·
TI·CLAVDIVS·CAESAR·AVG·P·M·TR·P·IMP·P·

Coin of Drusus, Brother of Tiberius Cæsar.

In the lukewarm baths we are surrounded by a rotunda of immense size. The dome above it rests on eight porphyry columns and a cross framework. Its circumference was so great that architects of our own time have declared it impossible. Radiating mosaic arabesques branch out from the center and enclose the pictures on it; the walls up to the slope of the dome consist of polished porphyry.

We return to the outer building and wander thru the magnificent palace on the second story. What a splendid vaulted roof in the hall which we enter; How beautifully its white stucco sets off the dark marble walls surmounted with a golden frieze! Then we hasten up a broad marble staircase into a picture gallery, in the halls of which are collected the works of great Greek and Roman painters, Etruscan vases, metal mirrors with pictures on the back, many beautiful and in good taste.

The baths of Caracalla are the last work of art at Rome in the contemplation of which we can find any pleasure; and indeed we may really find more artistic value in a single coin of the time of Augustus than in all the splendid frescoes of these baths. In the heads and figures on these coins there is a reflection of the national spirit which gives them a deep interest. Under this emperor we see art develop, under Greek influence, with an almost miraculous rapidity, and then sink again almost as quickly, till, under Hadrian, it once more rises into a momentary life; in which, however, traces of artificial forms are to be seen, as, for example, in a double temple of Venus. Henceforth art is lost in extravagance of proportion and exuberance of unnatural and tawdry decoration. We see this in the gaudy voluted capitals and the rough, worthless sculpture. This is already visible in the statue of the excellent but weak emperor, Marcus Aurelius, in the Capitol; it is still more evident in the triumphal arch of Septimus Severus and its sculptures.

ANTONINVS AVG PIVS P P TR P
COS III

Coin of Antoninus Pius.

But the breath of true life is felt in the figures on the Sarcophagus, which present the significant myth of Cupid and Psyche as a symbol of the immortality of the soul. Thus even the fantastic Oriental tendency, which is growing stronger, is producing a disposition favorable to the reception of Christianity.

The decline of architecture is well shown in the palace of Diocletian at Spalatro; it is surrounded by walls and towers, highly picturesque but not harmonious, rich in excess of disconnected detail.

TEACHERS' EXAMINATIONS.

The questions given in this department have been selected from papers used at recent teachers' examinations in several states. The answers are necessarily suggestive rather than final, tho their accuracy can be depended upon as far as they go.

New York State Uniform Examination Questions.

(Held January 14, 1904.)

GEOGRAPHY

1 Draw a map of Australia, and on it locate and name *a*) a tropic, *b*) a river, *c*) two cities.

2 Which hemisphere has the greater water surface *a*) eastern or western, *b*) northern or southern?

3 Name *a*) a country of South America which has no seacoast, *b*) its capital, *c*) an important product.

4 Name a large lake of which the Nile river is the outlet, and three kinds of large animals likely to be found in its waters or on its banks.

5 Name the chief port and an important export of each of the following countries: *a*) Belgium, *b*) Germany, *c*) France, *d*) Austria, *e*) Portugal.

6 Name and give the location of a part of Asia which is under the control of *a*) Great Britain, *b*) France, *c*) Russia.

7 Admiral Evans recently sailed with a fleet of warships from Yokohama to Honolulu. State *a*) on what ocean, *b*) in what direction, *c*) about how many miles he sailed on this voyage.

Name four important cities of the United States each at or near the mouth of a river. What is an advantage of such a situation?

9 Name *a*) two cities or villages of the state of New York each noted as the seat of a university; *b*) two, each noted as the seat of a Normal school; *c*) the one which is the seat of the United States military academy.

10 With reference to a river define *a*) source, *b*) basin, *c*) tributary, *d*) delta.

ANSWERS

1 Personal answer. *a*) Tropic of Capricorn. *b*) Murray. *c*) Sydney and Melbourne.

2 *a*) Western. *b*) Southern.

3 *a*) Bolivia. *b*) Sucre. c) Rubber.

4 Victoria Nyanza; crocodile, hippopotamus and buffalo.

5 *a*) Antwerp; lace. *b*) Hamburg; iron manufactures. *c*) Havre; wine. *d*) Trieste; grain. *e*) Oporto; olive oil.

6 *a*) India, south central part. *b*) Indo-China, southeastern extremity. *c*) Siberia, northern half.

7 *a*) Pacific. *b*) Southeast. *c*) About 4,200 miles.

8 New York, New Orleans, Savannah, Portland, Ore. A city so situated usually has great commercial advantages.

9 *a*) Ithaca, Syracuse. *b*) Albany, Jamaica. *c*) West Point.

10 *a*) The beginning or head. *b*) All the land which sheds water into a single river system. *c*) A smaller stream flowing into main river. *d*) Plain built of sediment at the mouths of rivers.

ARITHMETIC

1 Define and illustrate *a*) abstract number, *b*) compound number, *c*) power.

2 At $450 an acre, find the cost of a rectangular piece of land 8 ch. 60 l. long and 5 ch. 30 l. wide.

3 A cistern, containing 16,275 gallons of water, leaks at the rate of 7 gal. 3 qts. in 9 hours. How long will it take to empty the cistern? (Solve by proportion.)

4 A grain dealer discounted a note of $2,500 for 60 days at 6 per cent., and purchased wheat at $1.25 a bushel with the proceeds. How many bushels did he purchase?

5 I buy 15 shares of stock at 95 and sell the same at 98, paying ⅛ per cent. brokerage in each case; find the net gain.

6 A baseball club won 85 games and lost 28. What was the per cent. of games won of all the games played?

7 A sawmill valued at $36,000, insured at 2½ per cent. on four-fifths of its value, was destroyed by fire. What was the loss of the insurance company?

8 Find the cost of 1,715 feet of pine lumber at $28.50 per M and 2,300 lath at 18 cents per C.

9 If A is 42° 15′ west of B, and it is 1 p. m. solar time at B, what is the time at A?

10 Two men hire a pasture for $30. A puts in 8 horses for 10 weeks and B 6 horses for 12 weeks. How much should each pay?

ANSWERS

1 *a*) An abstract number is a number used without reference to any particular thing or unit. *b*) A compound number is one composed of two or more different units. *c*) A number multiplied by itself any number of times.

2 $1,376.10.

3 { 7.75 : 16,275 = 9 : X
18,900 hours, or 787½ days.

4 1,980 bushels.

5 $44.94.

6 .752.

7 $28,080.

8 $53.02.

9 Eleven minutes after ten.

10 A, $15.79; B, $14.21.

AMERICAN HISTORY

1 *a*) How many voyages of discovery to the new world did Columbus make? *b*) About how many years elapsed between his first voyage and his last?

2 State the principal historical facts in regard to the life of Captain Miles Standish.

3 The first voyage from the upper Mississippi to the mouth of the river was made by a Frenchman. Give his name and briefly describe the voyage.

4 Write a brief account of one of Montcalm's campaigns in America.

5 Name three battles fought in the State of New York during the Revolutionary war to an end, and give a brief account of one of them.

6 In what year was *a*) the treaty signed which brought the Revolutionary war to an end, *b*) did Washington's first administration begin? *c*) How was the government administered during the period between these events?

7 Write briefly in regard to the beginning and growth of railroad building in the United States.

8 Draw a map of the United States showing the territory acquired from Mexico.

9 Briefly describe the draft riots in New York during the Civil war.

10 Name five states which have been admitted to the Union since 1860.

ANSWERS

1 *a*) Four. *b*) Twelve.

2 Born in 1584; fought in Flanders; sailed on Maflower; captain of colonists; waged war on Pecksuot; went to England as colony's agent in 1625; in 1636 attacked French forts on Penobscot; died in 1656.

3 La Salle. After founding several forts he started from Illinois and floated down the Mississippi. Named country Louisiana, after Louis of France. Reached the mouths of river in April, 1682.

4 Personal answer.

5 Oriskany, Saratoga, Harlem Heights. Personal answer.

6 *a*) 1783. *b*) 1789. *c*) Under articles of confederation, by a congress.

7 *a*) Baltimore and Ohio and Delaware Canal were the first. In 1869 Pacific railroad. These are most important events.

8 Territory included New Mexico, Arizona, California.

9 Personal answer.

10 Utah, West Virginia, Nevada, Nebraska, Colorado.

HISTORY AND CIVICS

1 Name five men whom most teachers would include in an oral biographical course extending through the Revolution. Outline what you would teach about any one of them.

2 What is the value of legends and myths in the lower grades?

3 What material equipment does the teacher need for the class, in order that her work may be successful?

4 Show that history stories may be interesting to children, and at the same time not valuable. On which point should greater stress be placed? Why?

5 In an elementary course, on what basis will you select the facts to be studied; to be memorized?

6 Consider the relative merits of using a number of different text-books and of using one book, in grammar grades.

7 Outline a lesson on some particular incident in the history of your own city.

8 Show what diverging lines of study may center in the mayor and the postmaster.

9 Suggest how we may best teach ideals of public conduct.

10 Outline a lesson on the method of choosing a governor or a president.

ANSWERS

1 *a*) George Washington, Benjamin Franklin, Marquis de Lafayette, Benedict Arnold, and some one of the English leaders. *b*) Benjamin Franklin: His home and early life; apprenticeship as printer; work as author and as diplomat; his part in the Revolution and the founding of the Republic.

2 They are of value as a means of acquainting children with what they will meet later in literature; for stimulating the imagination; from their connection with nature and peoples; because of their interest to the children.

3 Everything that she can get in the way of objects, appropriate to each of the studies in hand.

4 A history story read or told for its own sake is of little value. It should be taken up in relation to what precedes and what follows, and its bearing upon our present-day history should be brought out.

5 Advantages of different text-books: Gets pupils used to studying up a topic for themselves; gives breadth of view; prevents committink words of a text-book; adds to the interest in such a subject as history; Advantages of a single text-book; avoids a smattering of knowledge; pupils do not find it difficult to get just what facts they need with regard to a subject studied.

6 Personal answer required.

7 *Mayor* suggests possibilities for study of local government. *Postmaster* suggests possibilities of study of national government.

9 Method of choosing a president: National conventions and who attend them; electors and how chosen; part of the individual voter in the selection of a president.

READING, PHONICS AND ORTHOGRAPHY

THE AMERICAN FLAG

When the French tricolor rolls out to the wind, we see France. When the new-found Italian flag is unfurled, we see resurrected Italy. When the united crosses of St. Andrew and St. George on a fiery ground set forth the banner of old England, we see not the cloth merely; there rises up before the mind the noble aspect of that monarchy which, more than any other on the globe, has advanced its banner for liberty, law and national prosperity.

This nation has a banner too; and wherever it has streamed abroad men have seen daybreak bursting on their eyes, for the American flag has been the symbol of liberty, and men have rejoiced in it. Not another flag on the globe had such an errand, or went forth upon the sea, carrying everywhere such hope for the captive and such glorious tidings. The stars upon it were to the pining nations like the morning stars of God, and the stripes upon it were beams of morning light.

Consider the men who devised and set forth this banner; they were men that had taken their lives in their hands, and consecrated all their worldly possessions — for what? for the doctrine, and for the personal fact, of liberty, for the right of all men to liberty.

The history of this banner is all on the side of liberty. Under it, rode Washington and his armies; before it, Burgoyne laid down his arms. It waved on the highland at West Point; it floated over old Ft. Montgomery. When Arnold would have surrendered these valuable fortresses and precious legacies, his night was turned into day, and his treachery was driven away, by the beams of light from this starry banner.

Let us, then, twine each thread of the glorious tissues of our country's flag about our heartstrings; and, looking upon our homes and catching the spirit that breathes upon us from the battle fields of our fathers, let us resolve, come weal or woe, we will, in life and in death, now and forever, stand by the stars and stripes. They have been unfurled from the snows of Canada to the plains of New Orleans, in the halls of the Montezumas, and amid the solitude of every sea; and everywhere, as the luminous symbol of resistless and beneficent power, they have led the brave to victory and to glory.

1 Point out the valuable features of the passage as a reading lesson.

2 Explain how you would treat this selection as a reading lesson.

3 Select five words from the passage to the spelling of which special attention should be called and in each case give the peculiarity of the spelling that demands attention.

4 Indicate the expressions and allusions in the selection that you would have explained.

5 Define emphasis and mention the different ways in which words and phrases may be emphasized.

6 Discuss the place of phonics in teaching reading.

7 What are the essentials of good reading matter for children?

8 "The reading lesson should be primarily a thinking lesson." Discuss.

9 Outline a lesson in word building using as a basis the roots *port, duc, vert.*

10 "Reading should have for a main purpose the cultivation of a taste for the best books, and the inculcation of the habit of always having a good book to read." Explain how these objects may be accomplished.

ANSWERS

1 The passage selected is valuable as a reading lesson 1) because it was intended to be spoken, and the wording is arranged for the oratorical effect; 2) because it will awaken interest in the history to which it alludes; 3) because it suggests points for study of emphasis, and fine reading generally; 4) it instils thoughts of patriotism.

2 The passage may be read paragraph by paragraph, by different members of the class. It is so well suited for concerted work that it may be re-read in concert. It can then be taken up more in detail — the meaning of the several paragraphs be given by pupils in their own words, special words may be taken up for study, etc.

3 MONARCHY: the root *arch* found in a word always indicates the idea of government. *Symbol:* The letter *y* used as a vowel, with sound of *i*, *Pining:* Final *e* of *pine* dropped before ending *ing* ..*Legacies:* In the plural *y* changed to *ies*. *Treachery:* Note silent *a* in first syllable.

4 French tricolor; crosses of St. Andrew and St. George; symbol of liberty; like the morning stars; beams of morning light; Washington, Burgoyne, West Point, Ft. Montgomery, Arnold's treachery; halls of the Montezumas, etc.

5 *a*) Emphasis in reading is calling special attention to certain words or phrases. *b*) By stress of voice, inflection, and rate of reading.

6 Phonics has large place in the teaching of reading, bu tit is to be used as a mechanical aid, never as an end in itself.

7 It must be of interest to the reader, simple enough so as to be read understandingly, and yet the reading matter must be neither silly nor valueless.

8 If any lesson be not made a basis for development thru thought it is time wasted.

9 Teach meaning of *prefix* and *suffix*. Take some such prefix, as *re*, and have pupils find its effect on the meaning of each of the roots. From which of the roots may words be formed by prefixing *con*, *in*, *ex*, etc. From which may words be formed by adding *or*, *al*, *er*, etc. Have pupils make lists of words formed from these roots, and find meaning from dictionary.

10 *a*) A taste for good reading may be cultivated by using material which has literary value, always within the comprehension of the child, and yet not too simple. *b*) By always having good books about, talking about them, and expecting pupils to read them.

1 interior
2 foreign
3 irritation
4 epidemic
5 influence
6 relief
7 supplies
8 delegates
9 experience
10 Japan
11 system
12 decision
13 excellency
14 colonial
15 wonder
16 condition
17 movement
18 convex
19 auditory
20 conspicuous
21 harmony
22 desirable
23 confusion
24 supreme
25 powerful
27 question
28 including
29 possession
30 negative
31 physical
32 declare
33 suitable
34 opaque
35 speedy
36 probable
37 organization
38 jewel
39 military
40 civil
41 resolution
26 opinion
42 postal
43 inventor
44 control
45 treasury
46 local
47 pressure
48 accumulate
49 remote
50 bicuspid

Teacher and Pupil.—Woodcut from "Elucidarius," Augsburg, 1481.

EDITORIAL NOTES.

Urban School Organization in a Democracy.

The best way of choosing a city board of education is now by thoughtful people generally conceded to be election by the vote of the people of the municipality. President Eliot argues for "election at large, one member at a time, or two at a time, and each member re-eligible once, but no more." Appointment by the mayor may be adopted as an expedient where public sentiment is at so low an ebb that it cannot be trusted with a direct voice in school affairs. But generally speaking, slow replacement by election has proved to be the more satisfactory plan.

Is election a safe method? As safe and safer than the election of a mayor. The schools are nearer to the ethical citizenship of the great majority of the voters than any other institution, and judicious voting can be cultivated.

The civic responsibility of it all ought to be brought very near to the heart and judgment of the individual voter. My personal preference would be for a more representative and less partisan board, than elections at large inevitably produce, under present methods of voting. Municipal elections are usually conducted on partisan lines. Good Government Clubs, Citizens' Unions, and other organizations have tried from time to time to relieve existing political parties from responsibility in running these elections, but they have not had very much success in changing the attitude of the average citizen. But there is a way of rescuing the school system from party control and at the same time obtaining a board whose representative character will not be as doubtful as one composed of members elected at large in general municipal elections.

Let each school community elect its own local board of trustees in annual school meeting and nominate one trustee as candidate for the central board of education. Three or more adjoining school communities forming together a city school district might then in election choose one of the several candidates nominated in the district as representative to the general city board. In New York city where the number of districts is forty-six and in other large cities a board including all district representatives would be an unwieldy body with temptations to much speech making. Here the chosen district representatives should constitute an advisory body acting as an intermediary between the various school communities and the central board of education. The latter could then be made up of members chosen in general municipal election, "one member at a time, or two at a time, and each member re-eligible once, but not more." The citizens would make their choice from the list of district representatives without intervenient nominations by political parties. In this way partisan influence would be reduced to a minimum.

The board would represent the educational sentiment of the municipality in the fullest possible measure. Every citizen has had a chance to express his choice in nomination as well as election. It is important that the educational responsibilities should come as close to him as this.

Wanted—A Schoolmaster.

Mate's "Illustrated Guide to Burnham" prints this advertisement for a schoolmaster, which gives a vivid picture of the requirements in 1774:

> "WANTED.—A person qualified to teach school, and as an amanuensis to write grammatically for the press the compositions of an old invalid. He must be a proper judge of securities for cash; draw leases; make wills . . . and undertake the clerkship of a large Benefit Society, with whom he must by their articles pray extempore and give them lectures. He ought to be able to sing and play different instruments of music, to teach his pupils to dance, and to shave and dress a few gentlemen in the neighborhood. Bleeding, drawing of teeth, and curing fire-legs, agues, and chilblains in children, will be considered as extra qualifications."

The salary to be paid this prodigy is not mentioned.

If some teachers had their way, advertisements of this nature might still be seen in the "want" columns of the newspapers from time to time. Self-complacency always sticks to the good old times. Effort at self-improvement looks wasteful to it. But, fortunately for teaching, the professional spirit is growing stronger every year. The teacher of 1904 must be a better teacher than he of 1903. Continuous self-improvement is the order of the day.

Partial List of Contents for the May Number.

Advisable Omissions from the Elementary Curriculum and Basis for Eliminations. Frank McMurry.
The Rating of Teachers. C. B. Gilbert.
Religious and Moral Education in the Schools. C. H. Thurber.
Herbert Spencer. A. Darlu in *Revue Pédagogique*.
Roman Art. (Concluded) Francis C. Turner.
Life in Ancient Greece. IV. J. P Mahaffy.

An accident has caused the loss of several manuscripts intended for use in EDUCATIONAL FOUNDATIONS for April and May. The plans for these two numbers have had to be slightly changed in consequence of this loss. Fortunately the Editor succeeded in getting the excellent paper by Dr. Eliot which will more than compensate the reader. The promised Review Questions and questions upon Spencer's Essay on Education will be presented next month.

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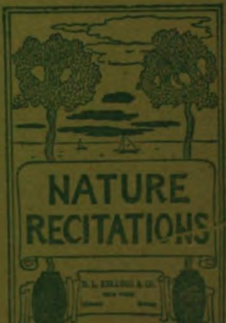

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Contents for May, 1904

Coöperation of Social Forces. W. H. Elson 637

SCHOOL ADMINISTRATION

The Rating of Teachers. Chas. B. Gilbert 638
Class Inspection and Rating of Teachers. William McAndrew - - - - - - 648

SCHOOL MANAGEMENT

Corporal Punishment - - - - - 650
Religious and Moral Education in the Schools. Chas. H. Thurber - - - 655

PHYSICAL EDUCATION

The Teaching of Gymnastics. Francis W. Parker - - - - - - - - 663

COURSE OF STUDY AND DIDACTICS

Advisable Omissions from the Elementary Curriculum, and the Basis for them. Frank M. McMurry - - - - - - 668

HISTORY OF EDUCATION

Herbert Spencer. A. Darlu - - - 680
An Estimate of Herbert Spencer - - 685

EDUCATIONAL CLASSICS

Extracts from Herbert Spencer's Essay on Education. II. - - - - - - 688

CLASSIC ANTIQUITY

Life in Ancient Greece. IV. J. P. Mahaffy 693
REVIEW QUESTIONS. 706
TEACHERS' EXAMINATIONS 709
EDITORIAL NOTES. 713

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Educational Foundations

OSSIAN H. LANG, Editor.

Vol. XV., MAY, 1904. No. 9.

Co-operation of Social Forces.

Every community has a progressive sentiment that makes for social well-being. Essentially it is educational in its influence. It organizes for study and improvement, encourages adequate library privileges, provides lecture courses and art exhibits, supports social settlements, charity organizations and humane societies, establishes hospitals, homes for neglected and dependent children, and juvenile courts for delinquents, provides public parks and playgrounds, encourages municipal beauty and in various ways develops a strong community interest and creates a healthy public opinion.

Incidentally this same public spirit operates actively in support of school needs. It urges playgrounds, the decoration and sanitation of school buildings, the establishment of kindergartens, the introduction of manual training, art, music, choice literature, and physical training. It is a positive influence in improvng the standard of teachers and increasing the efficiency of the system. It stands ready at all times to co-operate with school authorities in securing improved conditions for public education.

In an organized way this spirit differentiates itself into various specific interests, prominent among which are woman's clubs, art leagues, musical societies, commercial clubs, labor assemblies, young men's and young women's Christian associations, etc., each having its special field of activity. The school touches hands with all these varied interests, draws help and inspiration from all and offers a common meeting ground for all forms of social endeavor. A federation of all these varied social forces that operate in the community for the spread of civic intelligence and the growth of community interest, with the school as a common center, would be a public benefaction.

SUPT. W. H. ELSON.

Grand Rapids, Mich.

The best thought of the community must be kept in close sympathy with the common schools. The point is simple and the consequences are plain.

If a portion of the thoughtful people of the nation withdraw their support from the common schools the omens are not favorable to substantial progress.

SCHOOL ADMINISTRATION.*

The Rating of Teachers.

ONE of the perennial problems of school administration is that of judging and rating teachers.

Recorded and defensible judgment of teachers is necessary at times to determine whether they shall be retained in service. This is the lowest use of rating, and, on the whole, the most easily made. Some definite system of recorded judgment also is needed when teachers are to be selected from a corps for promotion to higher places, — principalships, for instance. In some school systems, too, advances in salary are determined by an official rating. For these purposes an accurate, definite, and reliable standard is needed.

No universally satisfactory system of rating has yet been approximated, and so far as I know, no method has been adopted which is satisfactory even locally. Yet great varieties of tests have been made, ranging all the way from the unrecorded and unchecked individual judgment of a supervising officer to the most elaborate plan of marking by points, and while some of these work fairly well, all are criticised. This may be due partly to the fact that those who are unfavorably affected by such judgments are not to be expected to be satisfied.

What constitutes excellence in a teacher? Is there any one characteristic, or any one class of characteristics which can be put down definitely as superior to all others and most to be desired in a teacher? Theoretically, yes, otherwise what does the science of teaching mean? How can there be a science of education unless there are certain classifiable facts relating to its principles? And if the points of good teaching can be definitely classified, it is not difficult to see that the teachers who manifest these are the good teachers, and, yet, so general are our principles, and so varied the characteristics of various successful teachers that the difficulties of proper classification and rating are not to be wondered at.

Teaching, as I have often said in these articles, is a spiritual process, and its results are not immediately manifest. If a man is placed in charge of a gang of workmen, there are always available standards of comparison so that the employer can quickly determine whether the man is an efficient foreman or not. A salesman in a shop with other salesmen very soon makes it evident to the proprietor how he compares with his fellows, but the teacher's work is of so recondite a character, and apparent results are so often fallacious, that I doubt if we shall ever arrive at a strictly satisfactory standard. And yet it does seem that we might have something fuller, more reasonable, and more satisfactory to those marked than anything yet attempted. But when all is said and done it is so largely a matter of judgment, almost of instinct, that I believe the sufferers by any system of rating can never be satisfied.

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If a salesman, to refer to him again, week after week sells only 50 per cent. as much as a fellow salesman at another counter, he must, if at all fair-minded, be compelled to admit that he is not so good a salesman, but the inferior teacher is practically never ready to make this admission. He sees excellence in his own work which he is sure his superior officer does not take into consideration in marking him. There may be some defects which are noted, but he is quite confident that they are over-balanced by unnoted merits.

With regard to the three classes of cases in which the rating of teachers is utilized, as I have said, the case of the teacher who is so poor as to merit discharge or to be in danger of discharge, is the most easily judged. In an ordinary system the faults that are serious enough to reach this extremity are usually flagrant, — are manifest upon the surface: the order is bad, the teacher's disposition is offensive, the teacher is ignorant, the class does not attain even a reasonable degree of efficiency. Scarcely ever are less manifest errors than these treated as sufficiently bad to justify discharge, and these can easily be discovered without a system of marking.

Inasmuch as it is quite necessary to have some principle of rating to serve as a basis for promotion to higher positions, it is to be taken for granted that such a rating is possible. It is undoubtedly more difficult to reach a just determination for promotion than when the only question is whether the teacher is to be retained in the system, — many more elements enter in, including those characteristics not manifested by the teacher in the class-room but which are required in the higher field. For example, if it is a principalship, executive ability is a special characteristic, the possession of which it is difficult to determine in the case of teachers who have not had opportunity to display it. Still, the problem is a fair and just one, and we will discuss the principles involved a little later.

As to the third use of the rating system, — the determination of salaries, it must be confessed that at present there is no status sufficiently reliable to justify such a course. Theoretically, the best teachers should get the best salaries. Practically, in large school systems there is danger of so much injustice because of the uncertainty of standards that I am confident the attempt cannot be successfully made at present. If reliance is placed upon marking systems, there are differences among markers, and, further, all the evils incident to marking systems are introduced. If judgment of superior officers is the basis, poor human nature is the sure preventive of justice. Moreover, no supervising officer could long survive the antagonisms created and the charges of partiality made. So I shall not attempt to consider the use of any system for the purpose of determining salaries, except in so far as they may be determined by the grade of license held or the position occupied.

It may be said here that one of the chief advantages of a definite system of grading teachers is the protection which it affords the supervising officer who must make decisions. His protection, however, does not require an elaborate, heart-breaking system, but a general record is sufficient, made as the result of observations from time to time, stated in broad terms, supported by the various sorts of written evidence that the principal or supervisor can always collect.

There are two general bases for the grading of teachers for all purposes, both of which are valid and should be treated as elements of all decisions. One is the teacher's personality and general influence over the pupils in stimulating endeavor, arousing interest, and affecting character. The other is what we commonly call results, meaning the more definite evidences of good teaching, such as the possession of knowedge by the pupil after a period of instruction. Just how these two elements should be balanced in an official judgment, it is impossible to say. It will vary with the cases, for after all we can never get away from the human element.

It must be admitted that some teachers who would be rated as poor, according to any accepted technical or exact standard, have many admirable qualities which make them desirable companions for the young, and considering education in the broad sense, these elements are of great importance. There are also many teachers who, according to any plan of rating that could be employed in a large school system, would rank high, with whom we would not care to associate ourselves daily, and consequently with whom we should not care to have our children associated. These fine distinctions cannot be put down in any book under any heading, but they will inevitably influence the judgment of the wise and observant supervisor if the exercise of judgment is allowed, — that is, if a determination with regard to the standing of the teacher is not made to depend wholly upon technical and exact ratings, — and they should enter in. Sometimes I am disposed to think that they are even more important than what is known technically as good teaching. I recall once taking a distinguished visitor — a college president who was a member of the Board of Education to visit a certain school, and led him into the kindergarten. The kindergartner was a young woman of fine presence, culture, beauty and dignity of character, but failing egregiously in those characteristics which one could mark, and yet it was a happy and wholesome kindergarten. When I spoke of some of the defects of the kindergarten to the learned doctor, he remarked, "Well, the children are in good society any way," and it set me thinking. I am not sure but that those children were more benefited by the good society they were in than they would have been under a strictly orthodox and proper kindergartner who might have carried out the principles by the book with perfect exactness.

My argument from all this is that in all estimates made upon teachers, personality should be included, and by that I mean this vague, indefinite, spiritual quality which cannot be put down in words, much less indicated in figures or other symbols, such as are used commonly in the formal rating of teachers, and this means that somebody's judgment must be exercised.

There are certain features of what is known as civil service reform, which, carried to the extreme, are disastrous in any system, and particularly so in the spiritual work of the teacher, and if human nature cannot be trusted to judge of personality and to give that judgment official valuation, then there is no such thing as getting good teaching. In trying to get away from pull and favoritism we are in danger of going so far as to do away with humanity, and to reduce our school systems to the condition of machines, which is always one of the perils of large systems.

The second and more commonly recognized basis for rating is what is ordinarily called results. Now, what are results? No term could be more misleading. As usually interpreted, the least important product of the teacher's art is the only thing included in this term, and the commonplace, iron-clad teacher can get the kind of results which extreme officialism wants. The most simple, direct, and easily ascertained results are those which have been exalted by the late lamented Board of Regents in this state into an educational deity, viz.: the ability to answer a few set, technical, narrow questions of fact, — height examinations. Many teachers like this sort of thing because it is easy. Their work is cut out for them; they are not compelled to think, except so far as mental acumen may be employed in inferring what the next examination is going to be from what the preceding have been, and then drilling the children on the supposititious questions to be asked. Of course, this is not teaching, but it is what results from an exact and definite rating of either pupils or teachers. If the teacher knows that she is to be rated for any purpose according to the number of children who "pass," she naturally will bend every effort to have a large number of children pass, and if the promotion is based upon a set examination, furnished from headquarters, the shrewd teacher very quickly learns what sort of examination is coming and drills her children accordingly.

Under the Regents' system referred to, it very commonly happened that the poorest schools, according to any reasonable standard of education, regularly got the largest number of Regents' certificates, and the poor teachers, so far as spiritual results were concerned, many of them, were able to drill the few inconsequential facts required for the examination into their children so that they could pass, while the good teachers, whose influence upon the lives of the children was broadening, sweetening, and stimulating, failed to get the children up to the required standard because their time had been spent upon better things. Their children knew much more than those who could pass the Regents' examination, but it wasn't the same knowledge, and consequently it was of no use, and it was not so distinctly categoried for question and answer. Interest under such a system is disastrous, because interest leads minds afield and asks many questions.

So it is evident that for a proper basis we must broaden the term "results." Aside from the ability to answer conundrums, what should be the result of a good teacher's teaching? First, interest in the work itself and in its larger phases. If the subject is history, a result of the study should be not so much the ability to remember facts and their dates, as the kind of interest which prompts the student to read much more than is required for the examination, and to continue to be a student of history after the work of this teacher has passed.

Second, the kind of knowledge that makes the pursuit of further knowledge possible, which is quite different from the ability to answer the ordinary examination questions. It means the possession of salient and suggestive points, — those points which furnish apperceiving centers for new knowledge, and which are perhaps most noticeably manifested in an inquiring mind and an intelligent curiosity.

A third result is the ability to pursue a study, not merely when prompted by a secondary end, such as a prize or a mark, but for the sake of the study itself, and to pursue it beyond the simple limits of the examination with intensity, continuity, and success. The old-fashioned *application*, in other words, and the power of abstraction from surrounding influences and from secondary impulses must be added to the kind of interest of which I have spoken. The child acquires the power of intense application from being intensely interested, and the habit of such application comes from repeated absorption in valuable occupation. These are typical results. It is not by any means an exhaustive list, but I name them simply to illustrate that product of teaching which is higher than the ordinarily valued " result."

Now the question arises, can these results be definitely ascertained so as to form a basis of rating? and if so, how? It certainly is not easy to formulate any definite plan of rating the spiritual and higher intellectual results of teaching. Here again we must rely upon the judgment of supervising officials, and get away absolutely, but gradually, from the fetish of the civil service reformer that everything can be determined by examination. In the end our schools will be better off. Is it possible, however, to make such rating?

First, as to interest: There are several indications which may guide the supervisor. Commonly a visit to the class-room is a fairly reliable, tho inadequate, guide. The shrewd supervisor notes the quality of interest shown. It is to be remembered that the interest referred to here is a very different thing from that nervousness which is often manifested during the recitation and which passes for interest. I mean the apparent excitement of children over what is being presented to them, and sometimes the undue eagerness to talk, the raising and waving of hands. Teachers themselves are often deceived by this fictitious and superficial interest. It bears about the same relation to vital interest that excitation of the muscles of a frog's legs by a galvanic battery does to a good jump, and it is often the product of the professional smile and the professional fluttering and hopping of the teacher, — the substitution of cutaneous excitement for activity of the spirit. I have seen classes of children in this state of unwholesome and deceptive activity resembling little jacks-in-the-box, bobbing up and down continually with the hope of catching the teacher's eye, and often without a solitary thought beyond that. But real interest in a class-room is manifested in the recitation, of course, and the keen observer cannot fail to detect it; the bright eye, the earnest look, the serious and thoughtful question or attentive listening are indications; the desire to know, more than the desire to shine; the desire to tell when there is something really worth telling rather than the desire to make a noise. But the best criterion of the real power of the teacher to stimulate interest is found in that portion of the class not reciting.

Of course, I take it for granted that mass work by the whole school has already been rejected by readers of these articles. The kind of zeal which controls the children at their seats in the pursuit of further knowledge is a good test of the teacher's power. If the children are studying as you would study, in such a way as to get the most out of the subject, not simply committing to memory answers to questions so as to be able to recite and get a mark; if they are inquisitive and are consulting books of reference, — are really pursuing their subjects, it speaks well for the teacher. And especially if the subject-matter of the class-room becomes the topic of conversation after school and at intermissions, not flippant or slighting, but in earnest inquiry, it speaks well for the teacher. And if the pupils, after promotion, carry into the class above interest in one or more subjects and a superior knowledge of these subjects, with a desire to pursue them further, this, perhaps, best of all, shows that the teacher has been doing the right kind of work as to interest.

If, on the other hand, there is a lack of devotion to the ends of the school, if the children are idle and listless and frittering away their time, it is a bad sign. If they are struggling eagerly and fiercely for marks, and holding the teacher to the categorical question and answer, which makes it possible for them to be marked, it is almost as bad a sign as listlessness or inattention. The children who openly manifest their lack of interest in what is going on are pretty sure to find something that does interest them. The children who are studying for marks are interested, but in that which is of injury rather than value.

Even with the youngest children there may be developed an interest in life itself, in the vital problems which must be met even by them, and if there is a tendency among the children to apply the teaching of the school to the problems out of school — to solve serious questions by means of the help which the school has furnished, that is perhaps the very highest proof of all that the right kind of teaching is being done, and the right sort of interest created.

The second result to which I referred is the kind of knowledge that is fruitful or that may be used for apperceiving centers. If the pupils, after a recitation, possess a few facts which they regard as final, so that they think they have a thoro knowledge of the subject, the teaching has been bad. There is a very popular fetish known as "thoroness" which means the picking out of a few facts, so unimportant and so limited that they can be known by the inferior mind thru and thru, and teaching these to the exclusion of the broader knowledge which reaches out into the world continually for more knowledge. If the pupils go to their seats satisfied with having answered all the questions, with no unanswered questions, with no desire to go on and tie new knowledge to the old, the teaching has been poor. If they go to their seats without thinking much about what kind of a recitation has been made, but full of the subject and eager to know more of it, and disposed to attach all new things that come into the mind to the old as coordinate parts, then the teaching has been good. Good teaching relates everything and makes it possible for the children to see new relations between the new and the old. Any teaching which produces a sense of finality and completeness or so-called "thoroness," is hopelessly bad. Much better the teaching which closes up nothing but sets the tentacles of the mind all agog for new possessions than that which closes up everything, the tentacles themselves included.

This sort of knowledge does not necessarily exclude certainty on minor points. It is possible to know the few inconsequential things just as well with this sort of teaching as with the other, but with this difference: the result does not stop with this but goes on into a wider world and the mind continually enriches itself by the new things that it attaches to itself thru their natural affinity for the old. It is only such knowledge that is really worth while, — the knowledge that is never final but is always secondary, that continually enlarges the curiosity or desire for more knowledge, that places the student in the attitude of Newton upon the seashore. All good teaching gives this, and the degree to which this sort of knowledge is imparted is one of the perfectly fair criteria by which the teacher may be judged.

The third result of good teaching that cannot be included in a category, is the ability to pursue study for its own end and beyond the limits of examination, with intensity, continuity, and success. This has been largely covered in the treatment of one and two. It means the elimination of secondary ends, such as prizes, marks, and punishments from among the stimulants to study. It means also the reaching out for new knowledge, of which I have already spoken. It means, further, however, the power of concentration upon a subject, making pursuit for the time being an end in itself, and shutting out all extraneous and disturbing matters. This power of hard study, alone and unaided, for the sake of the desired primary end, is one of the highest results of good teaching. It can almost never, if ever, be secured in a school-room where there is mass teaching, — that is, where the classes all recite together and all study together with the teacher ever at hand. But the boy or girl who can sit down in a school-room while a class is reciting an interesting subject to the teacher, and be deaf and blind to all this and become so absorbed in his study that he pursues it thoroly without regard to anything else, has acquired a power which, under ordinary circumstances, means success in life, and it can be the result, at least to a degree, of good teaching. Of course, there are great differences in minds and some minds never can concentrate closely, but all can improve under the regime of the school if the teacher is of the right sort, if the interests are in the right direction, and if the ends pursued are such as appeal to the children as worth while. And this is another high mark of good teaching.

Now these three results, while they are more tangible than the higher spiritual results of which I spoke at first, still are to a degree intangible and cannot be exactly recorded. It is not easy to mark teachers on the basis of these qualities by definite symbols, but the observant supervisor knows whether any or all of them are possessed by the teachers and within reasonable limits, to what degree, — that is, he can tell sufficiently to be able to say whether, so far as school-room achievement is concerned, Miss Smith or Miss Jones ought to be appointed to the principalship, both having the proper kind of license. As to estimating the ability of teachers to do work which they have not yet done, as for example, to exercise the functions of principal, that again is a matter of judgment and of inference to be drawn from all the various points of which I have spoken, and many of which I have not spoken.

So that in conclusion we come back again to the assertion that no code of rules, civil service or otherwise, can, with any exactness or precision, or by any formal system of marking whatever, determine those finer points of excellence in teaching which really make one teacher more desirable than another. They can only be determined by observation in contact with teachers by critics possessed of sound sense and fairness, and it is necessary that school systems rely upon the possession of these qualities by the supervising force, otherwise the whole thing becomes mechanical and lifeless. Records of observations should be kept by those observing as carefully as possible, but no attempt should be made at exact mathematical rating. There is no measure for the spirit nor for spiritual work. The principles of promotion by examination alone as applied to teachers are fraught with error and with evil of all kinds. They have in some places been introduced as a substitute for political patronage which creeps into schools, and within fair limits, they have done some good in this respect, but they can never be the final criteria as to the power of the teachers. They can never serve as a proper sole basis for the promotion of teachers. While their introduction may, in some cases, remove political influence, it brings with it greater evils, because even under a bad political system personal judgment has weight and excellence does to a degree tell. Under a mechanical system excellence of the highest sort does not tell; it rather stands in the way, and the mechanical virtues which can be rated are placed inevitably above the spiritual virtues which are beyond computation.

New York. C. B. Gilbert.

An exceptionally efficient school principal lately said to her superintendent, "I don't mind fault-finding, but when people praise me it scares me." Yet the superintendent writes of her, that "she is able to live up to praise more easily than most people."

Not minding fault-finding must become second nature to a teacher who wishes to keep some sunshine in her school life. It's a pathetic thing. But there is no likelihood of any immediate change. It is well that teachers should not bathe in so much praise that it is expected as a matter of course. The meek schoolmaster, trembling at every word of criticism from the guardians of his flesh-pots, has been preserved in literature. His counterpart of to-day is the irritable school-ma'am who cannot bear the slightest suggestion of disapproval.

Happy is the one who, conscious of imperfections, is willing to profit by criticism, tho the spirit in which it is given be not friendly. Cultivate imperturbable good nature. It's worth having in every station in life, especially in teaching. Don't let praise scare you. Take it and be thankful for it. If you are engaged in educational work you may be sure it would not have come to you if you had not well deserved it. You will not have to live up to any higher standard because of it. Just continue as you have done, doing the best you can, and more of the same praise will follow you.

Class Inspection and Rating of Teachers.

These details have been collated by teachers and the principal of the Girls' Technical High School, New York city, from forms of various schools. They are to be considered suggestive rather than complete. Each point need not be rated. The idea is that the inspecting officer is to note down what most impresses him on a visit to a teacher's class-room. In order that later difficulties may be obviated it is well to date the report and specify in exact figures the number of minutes spent in the room. Sometimes it may be advisable to have the teacher herself sign to the correctness of the date and time. William McAndrew is principal of the school.

Teaching Ability

1. Plan of Lessons........	....	14. Topical rects..........	....
2. Aims......................	....	15. Pupils' attitude.......	....
3. Exposition...............	....	16. Pupils' voice...........	....
4. Emphasis chf. pts.......	....	17. Ppls.' ment. habits...	....
5. Thoroughness............	....	18. Note books.............	....
6. Apperception............	....	19. Written work..........	....
7. Correlation...............	....	20. Blackboard.............	....
8. Illustration..............	....	21. Assnmt. of Lssns.....	....
9. Drill.......................	....	22. Drctns. for study.....	....
10. Interest..................	....	23. Talk too much?........	....
11. Qstns. thot. vlue.......	....	24. Ecnmy. of time.......	....
12. Qstns. distrib...........	....	25.	....
13. Answers..................	....	26.	....

Scholarship

27. Knldge. of sub........	....	29. Up to date..............	....
28. Accuracy................	....	30. Present study.........	....

Effort

31. Prep. of lessns..........	....	35. Punctuality	....
32. In class....................	....	36. Obvnce. of Instcns	....
33. Gnl. Asstnce............	....	37.	....
34. Self Impvmt.............	....	38.	....

Personality

39. Moral influence.........	....	45. Health....................	....
40. Encrgmt	....	46. Voice	....
41. Sympathy................	....	47. Dress......................	....
42. Decision..................	....	48. Room......................	....
43.	....	49. Self control............	....
44.	....	50.	....

Control of Class

51. How secured...........	....	55. Clss. wrkg. hbts......	....
52. Interest..................	....	56. Ppls. honest wk.......	....
53. Reprimands.............	....	57. Dismissals..............	....
54. Sprt. of Clss.............	....	58. Fire Drills..............	....

General Rating

59. Special excellencies..	....
60. Special needs..	....

Date.......................... Time.................... By..................................

Noted.................................... Teacher....................................

SCHOOL MANAGEMENT.

Corporal Punishment.

REGULATIONS IN CITIES OF OVER 100,000 INHABITANTS.

Corporal punishment is forbidden in the schools of—

The entire State of New Jersey. (New Jersey School Laws, 1902, p. 46, sec. 106.)

New York city. (By-Laws, Board of Education, 1902, p. 41, sec. 451.)

Chicago, Ill. (Rules and Regulations, 1898, p. 28, sec. 62.)

Baltimore, Md. (Rules, 1901, p. 17, art. 181.)

Cleveland, Ohio. (Handbook, 1903, p. 90, sec. 22.)

St. Paul, Minn., except to repel violence, etc. (Annual Report, 1901-2, p. 252, sec. 134.)

Syracuse, N. Y. (Rules and Regulations, 1898, p. 30, sec. 20.)

Providence, R. I., in grades above primary; permitted only with parent's consent in primary grades. (By-laws, 1897, p. 23, art. 15.)

REGULATIONS IN OTHER CITIES OF OVER 100,000 INHABITANTS.

Philadelphia, Pa.: There is no rule, but corporal punishment is said to have been abandoned by common consent.

St. Louis, Mo.: Not mentioned in rules of 1902.

Boston, Mass.: Forbidden in high schools and kindergartens, and as to girls in any school. In any case it is restricted to blows upon the hand with a rattan. Each case must be reported thru the principal to the superintendent. (Rules and Regulations, 1902, secs. 218 and 241.)

Buffalo, N. Y.: The schools must be governed, as far as possible, without corporal punishment. Except when the superintendent gives special permission to other teachers, only a principal or acting principal may inflict it. (Charter and Ordinances, 1896, Chap. XIV., p. 218, sec. 39.)

San Francisco, Cal.: May not be inflicted in the high schools or upon girls in any schools. It is permitted only in extreme cases and may be inflicted only by principals or by vice-principals with the consent of principals. Excessive punishment is prohibited, only a strap or a rattan being allowed. (Rules, 1900, p. 25, sec. 64.)

Cincinnati, Ohio: May not be inflicted for failures in lessons or recitations. Blows on head or violent shaking of pupils prohibited. (Sixty-sixth Report Board of Education, 1895-96, p. 199, sec. 84.)

Pittsburg, Pa.: Not forbidden, but is inflicted only in extreme cases. (Rept., 1900, p. 11.)

New Orleans, La.: Prohibited in boys' high school, and in all girls' departments. May be inflicted only in extreme cases and then only upon the hands. (Rules and Regulations, 1901, p. 7, art. 7, secs. 5 and 7.)

Detroit, Mich.: Must be avoided if possible. Must not be inflicted without full knowledge and consent of principal. (Rules Board of Education, 1895, p. 29, rules 90 and 92c.)

Milwaukee, Wis.: Permitted, as last alternative, by principal only. Excessive punishment and lonely confinement prohibited. Must not be inflicted in presence of class. All cases must be reported monthly to superintendent. (Rules and Regulations, Board of School Directors, 1898, art. 13, secs. 7 and 8.)

Washington, D. C.: Must be avoided if possible. All cases must be reported monthly to principal and thru him and supervising principal to superintendent. (Rules, 1901, p. 10, sec. 50.)

Louisville, Ky.: Must be avoided as far as possible. Cruel punishment or confinement in closets prohibited. May be inflicted only after nature of offense has been fully explained to pupil. (Manual of School Board, 1898, p. 31, sec. 3, rule 3.)

Minneapolis, Minn.: Permitted only when all other means fail. Principal only may inflict corporal punishment; then only when parents give written consent. Each case must be reported by principal to superintendent. (Report, 1902, p. 143, sec. 6.)

Indianapolis, Ind.: Must be avoided as far as possible. May be inflicted only in presence of principal, and must be immediately reported by him to superintendent. (Manual of Public Schools, 1900-1901, p. 51, sec. 11.)

Kansas City, Mo.: May be inflicted in cases of flagrant offenses, and then only after duly notifying parents or guardians of intended punishment; and if parent or guardian will administer punishment, so as to preserve discipline of the school, teacher must inflict no additional punishment. Must not be inflicted in presence of school, but at the close of session and in presence of two other teachers or the superintendent. (Rules and Regulations Board of Education, 1896, p. 24, sec. 88.)

Rochester, N. Y.: May be inflicted in extreme cases by the principal or with his consent by an assistant. (By-laws and Rules, Board of Education, 1898, p. 38, sec. 5.)

Denver, Colo., district No. 1: May be inflicted only after consultation with and with consent of principal. When practicable, superintendent should be consulted. All cases must be immediately reported to superintendent. (Twenty-fifth Annual Report, Board of Education, district No. 1, 1899, p. 112.)

Toledo, Ohio: Forbidden in by-laws of 1885, p. 53, sec. 3. Not mentioned in by-laws of later date.

Allegheny, Pa.: Must be avoided when obedience and good order can be preserved by milder measures. (Rules, Annual Report Superintendent Public Schools, 1902, p. 123, art. 4, sec. 3.)

Columbus, Ohio: Allowed when all other means have failed. To be inflicted in school-room by pupil's teacher, the principal being the judge of special cases. Punishment in the nature of personal indignity forbidden. Report, 1891, p. 136, secs. 27, 28.)

Worcester, Mass.: Permitted only in extreme cases, then only when approved by principal or superintendent. Must not be inflicted in presence of school. Teachers are required to make and keep complete records of all cases. (Rules of School Committee, 1900, p. 22, sec. 12.)

New Haven, Conn.: May be administered, with consent of principal, in extreme cases only, but never at same session of school at which the offense was committed. Cases to be reported monthly to superintendent. (Manual, 1891, p. 56, art. 12, sec. 176.)

Fall River, Mass.: May be inflicted where milder measures fail. Must not ordinarily be administered in presence of school. Record of each punishment and offense must be sent to superintendent for inspection of the board. (Rules and Regulations, 1894, p. 13, sec. 46.)

St. Joseph, Mo.: Must be avoided as far as possible. Each case to be reported to principal and by him monthly to superintendent. (Report, 1889-90, p. 170, sec. 13.)

Omaha, Neb.: Teachers are required to govern their pupils by kindness and appeals to their nobler affections and sentiments. (Rules and Regulations, 1900, p. 55, sec. 105.)

Los Angeles, Cal.: Must be avoided if possible; switch or strap to be used; blows upon face or head forbidden. (Report, 1901-2, p. 158, sec. 82.)

Memphis, Tenn.: Must be avoided when good order can be preserved by milder measures. (Manual, 1897-98, p. 53, sec. 48.)

Scranton, Pa.: No information is at hand.

—**From the Report of the U. S. Commissioner of Education* for *1902*.

Religious and Moral Education in the Schools*

THERE is difference of opinion, and difference of practice as well, as regards religious and moral education. In a pamphlet recently issued by the Paulist Fathers I find this statement of the Catholic position: "Nor do they believe that morality and religion are separable; that men will revere the law if they ignore the lawgiver. Now, since morality has divine sanction, to attempt to teach its principles without reference to the Divinity is to ignore the lawgiver; yet just as surely as you speak of the Lawgiver, so surely do you trench on the ground of doctrinal teaching." That this view is held by other religious bodies is sufficiently proved by the multitude of denominational schools. And yet, in practice, so far as the public schools are concerned, religion and morality are no more connected than two remote planets whose orbits never meet. Nobody, I take it, objects to the teaching of morality in the public schools; generally it is recognized in some formal way in the curriculum. But specific religious teaching is practically banished by law from every public school in this country, so far as I am informed.

This is a very modern condition. The fathers of our common schools had no such notion. Luther had as much as anyone to do with starting state support of popular education, and with him the maintenance of schools was always for two purposes — the welfare of the church and the prosperity of the state. He says:

> I maintain that the civil authorities are under obligation to compel the people to send their children to school. . . . . For our rulers are certainly bound to maintain the spiritual and secular offices and callings. . . . . If the government can compel such citizens as are fit for military service to bear spear and rifle, to mount ramparts and perform other material duties in time of war, how much more has it a right to compel the people to send their children to school, because in this case we are warring with the devil whose object it is secretly to exhaust our cities and principalities of strong men, to destroy the kernel and leave a shell of ignorant and helpless people, whom he can sport and juggle with at pleasure. That is starving out a city or country, destroying it without a struggle, and without its knowledge.

Of the Reformation, Bréal says that "it contracted the obligation of placing everyone in a condition to save himself by reading and studying the Bible." Luther who did so much to furnish a powerful motive for reading the Bible by translating it into the vernacular, supplied the chief reading material of the next three centuries.

And what of Ignatius of Loyola, the great Catholic educator of Luther's generation? The Jesuit society which he founded has always devoted itself chiefly to education, and the very first sentence in the *Ratio Studiorum* refers to the "abundant practical fruit to be gathered from this manifold labor of the schools," that fruit being "the knowledge and love of the Creator." On a statue of Christ before one of their colleges is this inscription:

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* From a paper read before the Religious Education Association in 1908.

> For Thee these meadows smile, and, on the hill-top smoothed away, these beds bedeck themselves with flowers; and the youth from every clime unfolds, in virtue and in science, the hopes of Christian manhood.

The Jesuits have dealt with secondary and higher education, it is true, but the other teaching bodies that arose in the Catholic church to care for elementary education and the education of women were, it need scarcely be said, permeated with the same religious spirit.

Comenius, the good Moravian bishop, who has been called the "Father of the Common School," writes:

> That only I call a school, which is truly *officina hominum,* where minds are instructed in wisdom to penetrate all things, where souls and their affections are guided to the universal harmony of the virtues, and hearts are allured to divine love.

Pestalozzi, one of the noblest names adorning any profession, writes:

> I am unwilling to bring these letters to an end without touching on what I may call the keystone of my whole system. Is the love of God encouraged by these principles which I hold to be the only sound basis for the development of humanity?

Rousseau, who did much for education and who had boxed the compass as regards religious belief, so far from leaving morality and religion out of his system of education for the natural man and woman, gives them both a very important place. He could preach better than he practiced. To-day, however, some might disagree with his dictum that —

> Every girl ought to follow the religion of her mother, and every wife that of her husband. If this religion be false, the docility which makes the mother and the daughter submit to the order of nature wipes out, in God's sight, the sin of error. Being incapable of judging for themselves, they ought to accept the decision of their fathers and husbands as that of the church.

The views of the pedagogical fathers prevail to-day in the public schools of Germany and England. They prevailed far into this century in our own country. In Massachusetts, for more than a century and a half from the founding of the public schools,

> Dogmatic religious instruction was given in them without let or hindrance. This was one object that the founders of these schools had in view in founding them. . The free use in the schools of the shorter catechism gave no offense. The frequent visits of the minister to the school to catechize the children were taken as a matter of course. In fact, the minister had a definite educational status assigned him by the school law.

That this attitude was not peculiar to Massachusetts is shown in the famous passage from the Ordinance of 1787, creating the Northwest Territory:

> Religion, morality, and knowledge being necessary to good government and the happiness of mankind, schools and the means of education shall forever be encouraged.

Montesquieu says:

> It is in the republican form of government that the whole power of education is absolutely needed.

If there were not good ground for believing that to-day we are in danger of departing from the order of the Ordinance of 1787—first religion, then morality, then knowledge — and reading it first knowledge, then more knowledge, then more knowledge still, and are not using quite the whole power of education as Montesquieu declared a republic must — if this were not so, this Convention would not be in session.

The causes that are responsible for the new condition are very complex. The change took place so gradually that no one can tell when it happened. In Massachusetts we find, in 1827, a law declaring "that school committees should never direct to be used or purchased in any of the town schools any school-books which were calculated to favor the tenets of any particular sect of Christians." This was, in great measure, only a recognition of a condition that already existed, for such a law could not have been placed on the statute books if the public sentiment to enforce it were not already powerful. But the New England Primer and the Catechism did not leave the schools all at once. They were saying farewell for half a century. The multiplying of religious sects contributed powerfully to the movement. Since the schools could not teach the peculiar doctrines of every denomination, they became neutral ground. This was the easiest way out of that difficulty.

But another element entered in, less obvious, difficult to catch in the act, perhaps for the most part unconscious, yet, we must believe, most powerful. This was a subtle political feeling, rather than doctrine, that is part and parcel of our national idea. In regard to the schools, this influence, I believe, shows itself in two directions. The new nation was inclined at first to break with all the forms of the government against which it had rebelled. Many of the colonists had crossed the seas to escape from a state church; and while they had seized the opportunity, as in Massachusetts, to make their own church the state church, yet when other denominations grew powerful, the natural tendency was to separate state and church absolutely, so that the spectacle of one denomination tyrannizing over another might not be repeated in the New World.

On the other hand, it soon became evident that the new nation had a most interesting and important experiment on its hands. This was nothing less than the reconstruction of the Tower of Babel. Immigrants streamed in from every land, speaking all the tongues that sprang up from Babel's ruins, and out of them a homogeneous people had to be constructed. What was the agency to rely on to do the work? Not the church, manifestly, for every ship brought a new sect. So it must be the school, and so the school became "the symbol of an eternal unifying spirit." Some such underlying forces as these must have wrought for present conditions, for, altho each state acted by itself when the time came, each being a law unto itself in school matters, yet the result was everywhere practically the same.

Now it is time to look seriously at the present situation. What are the facts as to moral and religious teaching in our schools to-day? No one, to my knowledge, has studied that question so thoroly as an English scholar, who came over here on the Gilchrist foundation some three years ago especially to look into this very matter, and published two substantial volumes giving the result of his inquiry. In these pages we may see ourselves as others see us. Profesor Mark, in summing up his observations, finds that —

> With the exception of the partly scientific, partly moralizing teaching of temperance under the name of physiology, it is very uncommon to find anything upon the time-table under the name of character lessons or lessons in morals. The direct moral teaching is: (*a*) in connection with the formation of good habits, such as cleanliness, or kindness; (*b*) taken up as part of the opening exercises for the first five, ten, or fifteen minutes of morning school; or (*c*) associated with class mottoes, or with selected quotations written upon the blackboard.

The Massachusetts state law contains this paragraph:

> It shall be the duty of all instructors of youth to exert their best endeavors to impress on the minds of children and youth, committed to their care and instruction, the principles of piety and justice and a sacred regard of truth; love of their country, humanity, and universal benevolence; sobriety, industry, and frugality; chastity, moderation, and temperance; and those other virtues which are the ornament of human society, and the basis upon which a republican constitution is founded; and it shall be the duty of such instructors to endeavor to lead their pupils, as their ages and capacities will admit, into a clear understanding of the tendency of the above-mentioned virtues to preserve and perfect a republican constitution, and secure the blessings of liberty, as well as to promote their future happiness, and also to point out to them the evil tendency of the opposite vices.

I know that many courses of study presented for cities contain regulations similar in character to this law, and I presume that practically all do. Here is a form typical of many others:

> In all grades teachers should embrace every convenient opportunity to instruct their pupils in morals and manners. The following list of topics will supply bases for many interesting talks:
>
> Duty to parents, to brothers and sisters, to playmates, to the aged, to the poor and unfortunate, to the ignorant and stupid, to strangers and foreigners, to the public, to one's country.

Home manners, table manners, school manners, street manners, manners in public assemblies and in public conveyances.

Industry, punctuality, order, economy, honesty, truthfulness, cleanliness, self-respect.

Other topics will be suggested to the thoughtful teacher by occurrences that come under her observation in the schoolroom and elsewhere.

This is all excellent, but there is one weak point where it would not be surprising to find the system breaking down every now and then, and I must digress for a moment to offer a criticism and a positive suggestion. Is it to be expected that all teachers will, without any special preparation, be able to give " interesting talks," to quote the language of the ordinance, on all the difficult and delicate topics therein specified? How many in this audience would like off-hand to face a body of forty to sixty children, the keenest critics in the world, and give them an " interesting talk " on their duty " to the ignorant and stupid "? With the best will in the world the average teacher might not make the talk either interesting or profitable. This partly explains why direct moral or religious teaching is often thought to be of very doubtful value in the schoolroom. Moral or ethical knowledge no more comes naturally of itself to the teacher than to anyone else. It has to be learned like anything else; and especially if it is to be presented to others must it be learned in some orderly and systematic way.

My constructive suggestion is this: Let provision be made for the teacher to learn this subject. I have not been able to examine the courses of study of many normal schools, nor many of the examination papers set for applicants for teachers' certificates, but my impression is that, at present, training in morals is nowhere recognized as a part of the teacher's preparation. That the teacher is expected to be of good moral character, and almost universally is so, goes without saying; but the possession of personal morality no more qualifies for teaching morality than does the fact that I personally (so far as anybody knows) possess a perfect outfit of bones, muscles, arteries, veins, lungs, stomach, liver, and all the rest, qualify me to be demonstrator in anatomy in a university medical school. It is certain that formal text-books in morals have never been successful in schools in this country. The instruction must all come from the lips of the teacher. All the more reason that we should see to it that the teacher is at least offered the opportunity for special preparation.

Direct religious exercises in public schools seldom go, or are allowed to go, farther than the reading of the Bible. The law in the several states varies not a little. In New York, pupils cannot be compelled to attend religious services, and the law gives no authority, as a matter of right, to use any portion of the regular school hours in conducting any religious exercises at which the attendance of pupils is made compulsory. Some places — the cities of Rochester and Troy, for example, unless the rule has been changed very recently — forbid any religious exercises. But the opening of the school with Bible reading and some form of prayer is generally considered unobjectionable and desirable. This is permitted unless some one in the community objects and calls the matter to the attention of the state department, when the department immediately enforces the law. In other words, the Bible may be read, if no one objects, but must not be read if anyone objects. Massachusetts requires some portion of the Bible to be read daily in the public schools. In Missouri the trustees may compel Bible reading. In Illinois a student may be expelled for studying during the reading of the Bible. In Georgia the Bible must be used in the school. Iowa leaves the matter entirely to the judgment of the teacher and permits no dictation by either parents or trustees. In Arkansas the trustees settle the question. In North and South Dakota the Bible may not be excluded from any public school, and may be read daily for not to exceed ten minutes, at the option of the teacher. In most states that permit Bible reading no pupil can be compelled against his parents' wishes to take part in the reading or to be present during the reading. But in Maine a child expelled for refusing to read the Bible cannot recover damages. Arkansas forbids the granting of a certificate to a teacher who does not believe in a Supreme Being, and Rhode Island recommends the rejection of any teacher who is in the habit of ridiculing or scoffing at religion. Washington prohibits the reading of the Bible in the schools; Arizona revokes the certificate of any teacher who conducts religious exercises in school; and in 1890 the supreme court of Wisconsin decided that the reading of the Bible in the public schools is unconstitutional. In 1869 the Cincinnati school board was upheld in forbidding the reading of the Bible. The same action was taken in Chicago in 1875, and in New Haven in 1878. New Hampshire requires that "the morning exercises of all the schools shall commence with the reading of the Scriptures, followed by the Lord's Prayer." Pennsylvania says: "The Scriptures come under the head of text-books, and they should not be omitted from the list;" in 1895 the Bible was read in 87½ per cent. of the schools of the state. Virginia seems to have no law on the subject, but the Bible is generally read. South Carolina also has no law on the subject. The Bible is not read in any of the schools of Utah.

In 1896 reports on this subject were gathered from 946 superintendents, representing all parts of the country. Of this number 454 reported the Bible as read in all their schools, 295 reported it as read in part of their schools, and 197 reported it as read in none of their schools.[1] The law ranges, as you have observed, between absolute prohibition of Bible reading; permitting it when no one objects, but not otherwise; leaving it to the option of the local authorities, either trustees or teacher; and requiring it, either leaving the amount and method to the option of the teacher or prescribing a very limited amount of reading daily.

At the best, this is not much — not much of the Bible, and almost nothing in the way of effective teaching. But it is well to understand that there are laws governing this matter, and that we are not dealing with a question that can be settled off-hand in a religious gathering or teachers' convention. If there is not more direct religious teaching in our schools, at least it is not the fault of the teachers. Nor can there be more than there is now, unless the laws are changed. Referring to the reasons I have suggested for the enactment of these laws, and with a knowledge of the lurking danger of sectarian strife, we cannot escape the conviction that we have here a most difficult and delicate problem.

But Kipling says that the American turns

> A keen untroubled face
> Home, to the instant need of things.

To state the problem clearly, with no blinking of unpleasant facts, is the first step toward discovering the "instant need." Is the problem insoluble? If so, the sooner we make up our minds to that fact the better, that we may not spend our strength tilting against wind-mills. I certainly have no ready-made answer. But I think I see the first step. I have often been appealed to by a pupil to help read a problem: "If I could only read it, I know I could solve it." What teacher has not heard that wail? The first step is to read our problem right. To that end we must have more facts, all the facts. This Convention, or rather the organization which will, we all hope and believe, grow out of it in some permanent form, has, I take it, no more pressing duty than to get full and exact information bearing on every phase of this subject. The second practical, constructive suggestion that I venture to offer is just this, that somebody get these facts. Professor Mark, to whom I have already referred, got a good many facts, and his reports will be of immense suggestiveness to whatever person or committee takes this investigation in hand. Only let the investigation be in strong hands, free from every chance of suspicion of ulterior motives. The first step must be the collection and classification of our material.

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[1] See the report of the Chicago Woman's Educational Union, 1896; Bardeen's *Common School Law,* and Cooley on *Torts.* It is quite possible that some recent legislation which has not come to my attention may have modified slightly the laws as I have just stated them, but they are substantially accurate to-day.

Did time permit, it would be interesting to see in detail what the other great civilized nations, especially France, Germany, and England, are doing for moral and religious training in the public schools. As you know, there is no divorce between church and state in England and Germany, and both provide as definitely for instruction in religion as in any other subject. Bauermeister's great work gives no less than 338 huge pages to the details of the method and materials for religious instruction in the secondary schools, or high schools; and, moreover, treats religion first of all the subjects of instruction. Latin comes next, with 255 pages, nearly 100 pages less than religion; and the study of Latin is not neglected in Germany, as everyone knows. The official programs of instruction in the lower primary schools of France are divided into three parts, treating respectively of physical, intellectual, and moral education. Under the last head the work for each grade is indicated with great minuteness. This outline is most interesting and suggestive, and I wish there were time to give it in full. One subdivision is headed "The Soul," another "Duties toward God," and the word "God" frequently appears.

I am not yet fully persuaded that more emphasis upon the mere literary study of the Bible will result in much. The Bible was once almost the only reading book, in school and home. The appalling increase in printed matter — I will not say literature — made it inevitable that something else should be read in the sum total a great deal more than the Bible. Tastes change in literature as in everything else. Every now and then we read of the "revival" of some author, a "Shakespeare revival," "Milton revival," "Dickens revival," and the like. There is no reason why there should not be a "Bible revival" as well. Let us hope there may be, and for literary purposes a revival of the King James version, too. Yet the mere *literary* study of the Bible will produce, I imagine, mainly *literary* results.

But there are two mighty influences constantly, and one of them at least consciously, operative in our public schools in the interests of morality and to a large extent of religion. The first is the study of literature, which is gaining an ever larger place in our school curriculum. Great care is exercised in the selection of this literature, but the greatest care is none too great. The world's best literature mirrors the most instructive experience of the race. Here all the passions and the virtues that have ever lorded over the kingdom of man's soul are seen in their action, reaction, and results. Here the child may learn all the lessons of experience without paying the very large fees which that school exacts. Interest is spontaneous and genuine. Only, in order to bring out the lessons that should appear the teacher needs all culture and conscience, all tact and tenderness.

Less recognized, but most potent, I must believe, is the influence of school music. Music, I know, is called a "fad," with which epithet men habitually denounce what they do not understand. But, quite aside from its emotional and æsthetic value, school music may be a most potent moral and religious force. Here is a song I hit upon in a popular school music reader, for third-grade children, that is, children about eight years of age:

Loving Shepherd of thy sheep,
Keep me, Lord, in safety keep;
Nothing can thy power withstand;
None can pluck me from thy hand.

Loving Shepherd, ever near,
Teach me still thy voice to hear;
Suffer not my foot to stray
From the strait and narrow way.

Another:

As the twilight shadows
  O'er the mountain creep,
Happy little children
  Lay them down to sleep.

Tiny hands are folded
  For the evening prayer,
Sweet confiding voices
  Ask the Father's care.

'Tis the dear petition,
  Old as English speech,
Which adoring mothers
  To their children teach.

Hear them say: "I pray Thee
  Lord my soul to keep!"
Thus the little children
  Trusting go to sleep.

Hundreds of such songs as these are sung by hundreds of thousands of children in our public schools every day. With this in mind, let us be wary in joining in the hue and cry against school music as a "fad."

A dozen other agencies might be mentioned, all of which are working powerfully for righteousness thru our public schools. The last report of the United States commissioner of education has, for the first time I believe, a section devoted to "Educational Pathology," which discusses these topics: institutions for preventing social diseases; saving boys from crime; the "junior republic" —government of boys, for boys, by boys; and school government.

It includes, by the way, the constitution drawn up by the pupils of one of the schools of Chicago for their own government. The observance of special days is also utilized for impressing moral lessons from the lives of great men. Long, indeed, would be the mere catalog of all the useful expedients resorted to by those in charge of our schools, to further the cause this Convention aims to promote. Nowhere may you look for more intelligent, sympathetic, and devoted co-operation in this movement than among the school teachers of this land.

Nor can we doubt that intelligence is itself a moral force. You are all familiar with the story of the Jukes family, that classic set of vagabonds and criminals. But not so many may have read Dr. Winship's little book *Jukes-Edwards*, in which he sets side by side the histories of the family of Max Jukes and Jonathan Edwards. The mere facts are reverberatingly eloquent. Of the descendants of Max Jukes 1,200 were traced by Mr. Dugdale, of whom 310 were professional paupers, 400 were wrecked physically in early life by debauchery, 60 were habitual thieves, 130 were criminals convicted more or less often of crime, and 7 were murderers. The descendants of Jonathan Edwards were not so easily classified, but there were 60 eminent physicians, more than 100 clergymen, missionaries, and theological professors, and 80 at least reached high political preferment. There were 100 lawyers, 30 judges, and Theodore W. Dwight; and at least 120 were graduated from Yale College alone. No sacrifice was ever too great for the members of that family in order to get an education. The moral and religious elements were, of course, always strong in the family. But what a contrast between the illiterate Jukeses and the literate Edwardses!

The probability is always strong, and this is a hopeful fact, that morality and knowledge were not linked together fortuitously in the Ordinance of 1787, but tend naturally to go hand in hand. The people do not want unmoral schools. Political considerations may make it seem impracticable to do much in the public schools for specific religious teaching. But no one objects to the constant teaching thru literature and song, and a score of less noticeable agencies, that is going on all the time. The educators of the land are united for moral teaching in the schools. But they cannot have too much help from enlightened public sentiment; they cannot have too much expert assistance, provided that it is rendered wisely, sympathetically, intelligently. In many of their efforts in this direction school men have heretofore been hampered by a misunderstanding of their aims and motives.

Boston, Mass. CHARLES H. THURBER, Ph.D.

PHYSICAL EDUCATION.

The Teaching of Gymnastics.

THE cause of Physical Culture in America, owes very much, — more than words can tell, — to the magnificent generosity of Mrs. Mary Hemmingway, the earnest enthusiasm and executive ability of Miss Homans, and the marvelous skill of Baron Enebuske. The great merit of the Boston Normal Training school is, that by theory and superior practical work, it has brought the question of physical training squarely before the people, and especially before the teachers of America.

Some wise man has said that the greatest discovery of the Nineteenth Century is the "Suspended Judgment." Suspended judgment means a thoro, honest investigation of all theories, an investigation not handicapped by implicit belief, or burdened by bigoted dogmatism.

We are here to search for the best, — here in this convention, — and here on earth, for that divine purpose. Any suspicion that we have already found the best, is unworthy of human reason. We accept with profound gratitude what the day has brought us, and will use our precious inheritance for future discoveries.

The development of the body is solely and entirely to make it the most perfect possible instrument of the soul in its two fundamental functions of attention and expression. We hold that any exercise or set of exercises of the body that does not directly react and enhance mind and soul power, is useless. The body perishes; the effects of the soul's action are everlasting. But mingled and entangled with this central educative motive have been and are, many other inferior motives. These unphilosophical motives may be summed up in a phrase, — physical exercises for the sake of physical strength and skill. Pure athletics, acrobatics, and military accomplishments are the motives that lie without the line of education. Our question is, and there is no dissenting voice, — what is the pedagogical value of physical training? What are the relations of physical exercises to the brain and mind, and what are the best exercises to enhance the development of the whole being?

Of all nations, Germany has the first claim to anything like a science of education. In America, the science of education is still in the cradle, and the poor, puny child has very little substantial nourishment. Books upon education give us some indication of the growth of this science of sciences. Fifteen years ago, it was hard to find a book upon education in the heavily loaded shelves of our book stores. More books upon the subject of teaching have been published in English during the last ten years than in all the previous centuries. Germany, to-day has more books upon any one of the main branches of education, than we in America have in all of them. The names of celebrated German educators, I have but to repeat, — Comenius, Ratich, Sturm, Basedow, Pestalozzi, Herbart, Diesterweg, Stoy, Ziller, Rein, and Froebel, — no other nation or all nations, can present such a list of original thinkers and workers in the great field of education. German "Turnen" was born of the enthusiastic, philosophic spirit of German thought in education; it is the direct product of earnest, zealous, thoroly educated German teachers; it sprang directly from the necessities of the schools, and the development of children and has always been closely related to mental and moral growth. Every great name which the Germans delight to honor as a master spirit in *Turnen*, is borne by a university educated, professionally trained teacher; a teacher of other subjects than gymnastics. Father Jahn was a famous *Sprachlehrer* (language teacher); Gutsmuths was an excellent teacher; Pestalozzi was active in his support of physical culture; Harnisch has left a flattering record as a teacher; Massman was a school principal; Spiess and Langenthal were co-workers with Froebel in Burgdorf. These teachers, who have left us great names on the honored roll of pedagogs, were philanthropinists.

. . . .

Whatever is progressive in education, whatever is stimulating to renewed study of our divine art, came from the earnest, honest child-loving, self sacrificing philanthropinists. Here are the men, tho not in name ranked as philanthropinists, they had the spirit of these lovers of mankind, — Comenius, Basedow, Froebel, — the latter name suggests the highest point that this noble school of educators has yet attained. Froebel sums up the difference between the old school master and the new: — the old said to his pupils, — "Here am I, the incarnated truth, learn what I know and learn it as I have learned it. Follow me, be like me." The new says, — "With your hand in mine, I will try to point the way to the Invisible Third, the everlasting truth. Come with me."

. . . .

Every proposition of a fixed and rounded method of teaching suggests an alarming suspicion as to its validity. A method of education is the adaptation of knowledge and exercise to the development of the whole being. A fixed method suggests that the being,—body, mind, and soul, is thoroly known, and that all knowledge and all conditions of growth are also known and that the true method is also known, a presumption too monstrous to be entertained for a moment by a reasonable being. German "Turnen" is not a method,—it never had *one* discoverer or inventor; it has had hundreds of great educators as its devoted students and contributors. Every Turner recognizes that every step in progress is merely tentative. It has a full literature; an enunciation of principles, and countless details of an ever growing method. Its one claim is that it is the honest growth of eighty years of earnest, thoughtful work of souls consecrated to the development of the whole being; its claim is that this marvelous evolution, which has had the ardent support of all the great German philosophers, should be carefully and thoroly studied, and applied when found good and true. If the sole purpose of gymnastics should be pedagogical, what educators are best informed as to what is pedagogical. Truly those educators who have studied and practiced the science of education.

German "Turnen" is a system of perpetual research and perpetual progress; it appeals to genuine students. There is a marvelous fascination to the average mind and the great majority of people in a fixed and complete method of whatever nature. A fixed method as propaganda has immense advantages over a method that is ever moving on towards the better and the best. The human soul seeks for the ultimate in the present and worships it as a pagan idol. *Tell me what, how and where, and I will follow, is the prayer of the spiritual descendants of the humanists.* Teach me the principles and I will find a tentative method, is the cry of the progressive teacher.

The German "Turners" have a profound belief in arousing joy and delight in physical exercises in plays and games, and this is a direct inference from the results of all true study, which is the striving and struggling to know the truth, and that struggle is full of intense delight. As the fresh blood aroused by normal physical exercise enlivens and invigorates the whole body, filling the mind with happy emotions, so in a far higher way, the striving of divine energy thru the soul brings a culmination of delight. The humanists would have us believe that severe, prolonged exertion should be accompanied by pain, sorrow and the strap; the philanthropinists believe that the most prolonged exertions of both body and mind in natural lines is a perennial source of pleasure.

Of all beings on the face of the earth, we Americans are in imminent need of the gospel of healthy, hearty play and fun. The test of all exercise is enthusiasm that springs from healthy growth. But our honored friend carried his fun a little too far when he referred to the national peculiarities of the Germans. The question for us to decide is in matters of true socialism and rational religion, are we moving towards the liberty-loving German ideals or are they moving towards us? For further study, I would respectfully refer you to the Higher Criticism.

German "Turnen" in America was born in a terrible struggle for human rights. '48 tells that story. But the story of the influence of German "Turnen" in America upon our welfare and progress has not yet been told. I have time only to relate one incident. The greatest of all orators of this century threw himself into the breach, almost single handed and alone, for human liberty. We can scarcely believe to-day how our great modern Athens with its wealth of culture and refinement frowned down and even ostracised Wendell Phillips, when he heroically sought to shake off the fetters from the slave. You remember the oft-repeated story,— how in classic Boston, with its wealth and culture, the people rose in a mighty wrath against the intruder upon so-called Divine Rights; how he stood in Faneuil Hall and spoke against a surging mob of wrathful citizens; how night after night his wonderful eloquence sang the song of freedom for the down-trodden slave, and how great mobs of roughs and rowdies, doing the behests of culture and refinement, covered him, as he stood in his sublime dignity, with the filth of the street.

One picture our own Mrs. Livermore has painted. The hall was crowded; in the rear of the hall was a crowd of roughs gathered from the slums of the street, who had promised to shut the mouth of the marvelous orator. First they covered the stage with rotten eggs, cabbages, and the missiles used on such occasions, then they advanced down the aisle to tear Wendell Phillips from the stage; but halt! quickly there had sat in the front rows a little crowd of men whose firm-set teeth and grave countenances told that they had a work to do. They rose as the mob moved down the aisles, as one man, and filed out and drew from their pockets their revolvers. "Back!" they cry, "back! back!" and that was an argument which the ruffians understood, and back they went, step by step, at the muzzles of the unwavering shooting irons, back out of the aisles into the corridors, back out into the street, and the first victory over ruffianism of the old civilization that protected slavery was accomplished. Then these same men surrounded the sublime orator and marched in closed ranks around him to his home, where he bade them good-night and uttered the prophecy that those same ruffians who had mobbed him would soon toss their dirty caps in the air in his honor.

These men that were in the vanguard of liberty were, my friends, German " Turners," trained by pupils of Jahn and Spiess. Such national peculiarities we can admire when we know them. I have not time to tell the story of the brave Capt. Lyon of St. Louis, how with German Turners he turned the tide and saved Missouri for the Union, or of the riots in which the Turners stood on the Union side in the Civil war, or of their brave fightings all thru the great Civil war, led by Schurtz, Sigel, and Heintzelman.

When history is written, it will place above all battles or wars for the holy cause of liberty, the fight of the German schoolmaster for freedom, and in that battle the doctrine *mens sana in corpori sano* was foremost. FRANCIS W. PARKER.

[This is believed to be the first time that the above paper by the great educator, who has passed away, appears in print. It was given by him to the Editor some years since. In looking over old files of manuscripts, this paper came to light and is here offered to the readers of EDUCATIONAL FOUNDATIONS as a characteristic contribution of the Colonel.]

Teach a child to consider all animal life sacred — in short, give him the heart of a Hindu, not the heart of a Cartesian philosopher.

I here speak of something higher than compassion for animals, tho of that also. Why has it been long remarked that children's cruelty to animals predicts cruelty to men, as the Old Testament sacrifices of beasts foreshadowed the New Testament sacrifice of a man? It is certain that, unless associated with other things, the little human being can only sympathize with those sufferings which speak in tones similar to his own. Consequently the unusual cry of a tortured animal sounds to him only like the strange and amusing howl of the inanimate wind but, as he sees life and voluntary motion, and even attributes them to inanimate forms, he sins against life when he separates them as tho they were but machinery. Life itself should be sacred; every life, irrational as well as any other. And does the child, in fact, know of different kinds of life? Or is the heart, beating under bristles, feathers, or hard wing-covers, therefore any the less a heart?

JEAN PAUL FRIEDRICH RICHTER.

COURSE OF STUDY AND DIDACTICS.

Advisable Omissions from the Elementary Curriculum, and the Basis for them.

A QUARTER of a century back the common studies were the three R's, plus spelling, geography, some history, some physiology and hygiene, and possibly some music and drawing. To these have been added handwork, including either manual training, domestic science, domestic art or all three; nature study, literature in the primary as a subject separate from beginning reading; and physical exercises. Hence the number of *studies* has increased.

There are also more *topics* included under the various studies than there were a generation ago. For instance, while history was formerly confined to the eighth grade, or to the seventh and eighth, it now frequently includes pioneer life and industrial history, and extends thru the higher four or five grades. Home geography has been added to the former geography, and the whole subject now extends frequently from the third or fourth grade thru the seventh or eighth, while formerly it began with the fifth year of school. Music and fine arts are also much more prominent than formerly, extending over a greater number of years.

Finally the amount of *detail* considered under the individual topics has been greatly increased. One generation ago we were reasonably content with mere outlines, or at least with brief presentations of subjects. Now the principles of interest and apperception require enough detail to produce vivid and interesting pictures, so that our books are now thicker than formerly, and oral instruction — which allows much "filling in" — is more popular. The increase of subject matter from this cause is possibly even greater than that due to either of the other two causes.

It is evident, then, that we now have more studies than formerly, more topics under many of them, and more detail under the topics. These additions altogether, probably double, and possibly treble, the work required a generation ago.

If we assume that children at that time did all the work that they well could, and that general conditions have remained the same, children must now be submerged with school work.

But the full truth of that assumption is to be doubted. For example, beginning reading receives about half the time devoted to it twenty years ago, oral work in literature often receiving the other half. But children now, beyond question, learn to read more rapidly than formerly, reading from two to five times as much matter during the first three school years. In other words, we may assume that improved methods have led to the accomplishment of more work in a given time in education, as in manufacturing.

Nevertheless, it cannot be denied that the common school curriculum is seriously overcrowded. The reasons for the overcrowding are not so apparent. Teachers in the secondary schools think that they might speedily find a remedy for their state of surfeit, if they could devise some means of escape from college pressure. But are not the primary schools suffering a similar evil without such outside influence? When elementary school teachers get beyond the three R's, spelling, and a modicum of arithmetic, geography, and grammar, there is no public pressure brought to bear upon them to teach any recorded amount. What portion of the public or even of school superintendents knows, or greatly cares, just how much ground is covered in Literature, History, Color Work, Drawing, Domestic Science, Domestic Art, Physiology and Hygiene, Manual Training, Music, Nature Study and Gymnastics? Indeed, in the newly-adopted New York City Course teachers are either expressly instructed, in printed directions, or evidently expected, owing to the wording of the directions, to choose only that amount in such subjects which they can treat properly. Yet in that city the complaints against overcrowding are numerous and violent enough to produce the suspicion that the school authorities are standing over the teachers with a lash, to compel them to do an impossible task. What is the explanation? There is reason to believe that it is to be found primarily, tho not wholly, within the teachers themselves.

It is not uncommon for people to impose heavy burdens upon themselves, and then to go into mourning for these very burdens. This is the case with grade teachers, inasmuch as they are under the guidance of ideals, or ideas, that themselves lead to overcrowding. College professors, no doubt, are subject to the same ideas; otherwise their influence on the high school would be chargeable solely to their natural perversity. The millennium, therefore, might not come to high schools even if colleges ceased to exist; for it is quite possible that secondary teachers would have to blame themselves for an overcharged curriculum, if they could no longer make the college a scapegoat for such ills. The fact is, overcrowded curricula are the fashion, rather than the exception, in all kinds of educational institutions.

Let us see the reasons for this condition. In particular, let us consider the main ideas that have been guiding teachers during the last generation in the selection of subject matter for the elementary schools, and determine to what extent these ideas are now acceptable as standards for selection. Then we shall proceed to discuss the omissions that these accepted standards require.

1. Belief in utility long ago established the three R's in the curriculum, to be accompanied by spelling, composition work, grammar, geography, and some physiology. This, to be sure, might be material quite free from thrilling incident for the pupil, but it was considered absolutely necessary for later life.

Our present interpretation of social requirements and needs *includes* this doctrine of utility, but is *much broader*..

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> In the first place, health is accepted as a larger factor in life and in the school. We therefore require not only physiology and hygiene, but physical examinations of children, games, and physical exercises in abundance.
>
> Secondly, history including civics, and nature study, must be added to these, without debate.
>
> Thirdly, our belief in *emotion*, as a *vital* factor in securing efficiency, is *far stronger* than formerly. Hence *much* more emphasis is placed on literature, music and fine arts than twenty years ago. Thru the latter subjects one is made not only more refined and sympathetic in various directions, but more *energetic* as well; one function of emotion is the production of *energy*, and energy is coming to take the same rank in education as *steam* takes in manufacturing.
>
> Fourthly, the old notion of utility, coupled with greater belief in *efficiency*, calls also for manual training, domestic science, and domestic art. These are studies that combine theory with practice. Indeed the accepted principle, "no impression without expression," not only strongly supports these subjects, but is even insisting that an end point of *practice* be added to various other studies, such as fine arts, literature and nature study, thereby threatening greatly to increase the amount of time necessary for such branches.

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In brief, therefore, our present interpretation of social requirements and needs, as the first standard of selection of a curriculum, is *far* broader than that of a generation ago. Utility is still our watchword, but not the bread-and-butter variety alone. High ideals, permanent interests, energy, and ability to apply theory also rank among the most useful acquisitions and, accordingly, we have added numerous lines of study to the meager curriculum of our childhood. It is thus apparent that there is no satisfaction, at this point, to be gained by those desiring to curtail the curriculum.

But other ideas have been very important in introducing and rejecting subject matter, especially the topics *within* these separate lines or studies.

2. The children's mental ability is one of these ideas. In the main the limits in the children's power of comprehension have always acted as a check to the introduction of material, yet not an absolute one by any means. A retentive memory, for example, has often led to the introduction of memory gems from the Bible that could not be comprehended till later. But we have now become generally convinced that there is so much classic material, even in the Bible, which *children can* fairly understand, that there is no need of admitting other selections. The one argument supporting this conviction is the fact that, the younger a child, the more important that each year and each subject of study shall prove richly nourishing to him. The fullest possible growth *now* is the fullest preparation for the *future*. Therefore, it is *folly* to sacrifice the present for the future, and *any* subject that cannot be *fairly* comprehended by the child at the time it is presented, should be *excluded*.

3. The children's interest has been a third factor, closely related to the preceding, and recognized as *increasingly* important in recent years. On the whole, interest is necessary for the same reason as comprehension, because both are essential to proper digestion. But the interest likely to be aroused by a subject should not be an *absolute* test of its worth. Every kind of subject matter should run the gantlet of the first two factors named, to wit, social needs and the child's ability to comprehend, before being accepted in the curriculum. But not so with this third point. Indeed, these first two standards, particularly the first, may be so important as to overrule the third entirely. This is the only explanation of our admission of spelling, writing, the multiplication table, and beginning reading into the curriculum. For, in spite of improved methods, there is some school work that approaches drudgery in nature, and yet we propose to retain it because it is a *social requirement*. The test of interest, therefore, is not *absolutely* binding. We can only say that, in general, whatever does not promise to excite an *intrinsic* interest has *one* strong point scored against; and, unless other reasons for its acceptance are *particularly* strong, it should be rejected.

A *fourth* factor that has been very influential on admissions to the curriculum has been the scientific attitude towards knowledge. According to this idea, any fact is valuble because it is a fact, and should therefore be learned. Remarks of that kind are frequently heard in nature study classes. It is partly the love of mere logical completeness that has led to extensive classification in grammar and in science, and that insists on the cause of the seasons in geography. But this idea should be utterly rejected as a standard of selection, on the ground that it has no *negative* side; it lets down the bars for *anything* and rejects *nothing;* hence, it is *non selective* and *cannot* guide.

A *fifth* extremely influential factor has been "the harmonious development of all the faculties," as the accepted aim of instruction. But what topic would be rejected when tested by relation to this aim? Like the former, it is a *blanket* excuse for anything and everything. Recall, for instance, how it has favored the hard problems, — the puzzles that puzzled the teachers in arithmetic, the mere lists of *names* in geography and of *dates* in history. It should be utterly rejected as a standard of selection, on the ground that it is absolutely non-selective.

Mental development should be expected as a very valuable bi-product brought about in the course of the accomplishment of pieces of work that for other reasons deserve to be done. Only when this view is taken, and when the above statement is forgotten as a test of subject matter, is there promise that one of the chief barriers to a sane curriculum will be removed. It must be admitted that the last two points, when applied to the high school and the college, tend to knock the props from under some prominent studies, as algebra, for instance; but I for one, am ready to go on record as opposing any subjects that owe their existence in the curriculum mainly to the fact that they contain facts, or exercise the mind. Life is too full of large specific ends to be attained, to allow time for work that has no really tangible object.

The *sixth* and *final* factor that I wish to discuss is the prevalent conception of *thoroness.* Thoroness in spelling means the mastery of *every* word; thoroness in primary arithmetic means a knowledge of every possible combination of numbers within a certain limit. Thoroness in beginning reading, and in writing, likewise means primarily ability to recognize or make each word and letter. In these subjects, on the whole, there is no special organization of matter called for; the unit of progress is one small fact; questions as to what is large and small, or as to relative values, do not fit in, and there is no excuse for neglect of any single part. One must simply begin at the beginning, and work until he reaches the end, taking all as he goes. Here the sum of the details in each study makes up the whole. Hence, in these cases, the proverbs hold that "thoroness has to do with details," and that "trifles make perfection."

Now it is natural to want to apply this conception of thoroness to other branches of learning, thereby placing all the parts of literature, history, nature study and geography on the same level, as equally worthy of attention. Then it becomes the employment of the teacher and pupils to "run down facts."

But their task is hopeless; for there are so many possible things to consider that such studies as these have practically no beginning or end; they contain very many large and innumerable small thoughts, many of the largest being not even in print, but to be read between the lines. And thoroness in these means, *first of all*, judicious selection, a careful choosing of the more valuable parts, with willingness to neglect the rest. This latter is the *vital* point here. Thoro instruction parallels good discipline in the requirement that many things be overlooked. Until we have learned to *slight* and even to *omit outright*, as well as to lay *special* emphasis here and there, we are unprepared to *read* a book intelligently; and until our conception of thoroness *favors* such action freely, we lack one of the first elements necessary for the selection of a curriculum, particularly the major part of it, *the details*. In brief, thoroness in the treatment of most topics, means he selection of the *main* points, and whatever details are necessary to support them, with the neglect or omission of whatever facts are comparatively unnecessary or irrelevant to these main issues.

Of the six standards for selection, that have now been considered, two are rejected outright because they are practically nonselective, namely, truth for truth's sake and the harmonious development of all the faculties; and one needs very serious modification, the conception of thoroness. Accordingly, we hold to the following propositions in the rejection of subject matter:

(1) Whatever cannot be shown to have a plain relation to some real need of life, whether it be æsthetic, ethical, or utilitarian in the narrower sense, must be dropped.

(2) Whatever is not reasonably within the child's comprehension, likewise.

(3) Whatever is unlikely to appeal to his interest; unless it is positively demanded for the first very weighty reason.

(4) Whatever topics and details are so isolated or irrelevant that they fail to be a part of any series or chain of ideas, and therefore fail to be necessary for the appreciation of any large point. This standard, however, not to apply to the three R's and spelling.

The practical application of these standards will be discussed next month.

It is evident, at the start, that in spite of our large number of studies, not one can be wholly omitted. Reform does not lie in that direction. It is well to call to mind, too, when violent complaints break forth against our excessive number, that the French program for the common school includes all the branches that we ordinarily have, and distributed over about as many years. Substantially the same statement holds for Germany, for while she largely neglects handwork, except sewing for girls, one of her most prominent subjects is religion. And the English code of 1900, for the public elementary school, almost duplicates the German plan, with the exception that various kinds of handwork tend to take the place of religion. Judged by these civilized nations, therefore, we have not yet gone mad in our devotion to fads.

Omissions, then, must be confined to particular topics and details. Again the example of the French is suggestive, for, every second year of their course, they largely duplicate the work of the preceding year, thus devoting nearly one-half of all their time almost exclusively to review, aside from the abundance of review provided while the ground is being covered for the first time.

(1) Let us first apply these standards to arithmetic.

The contents of even the newer texts can be scarcely any guide whatever, because commercial competition has made these books almost encyclopædias on quantitative facts. But on the basis of social custom, our first standard, the following things — very often taught — may well be omitted:

Apothecaries' weight.

Troy weight.

Examples in longitude and time, except the very simplest, involving the 15° unit, since our Standard time makes others unnecessary.

The furlong in linear measure.

The rood in square measure.

The dram and the quarter in avoirdupois weight.

The surveyor's table.

Table for folding of paper.

All problems in reduction ascending and descending, involving more than two steps.

The G. C. D. as a separate topic, but not practice in detecting divisability by 2, 3, 5, and 10.

All common fractions except those of a very low denomination and customary in business.

All work with L. C. M. except the L. C. M. of such very common denominators as those just mentioned.

Complex and compound fractions as separate topics.

Compound proportion.

Percentage as a separate study, with its cases.

True discount.

Most problems in compound interest, and all in Annual Interest.

Problems in Partial Payments, except those of the very simplest kind.

The same for commission and brokerage, for example, all problems involving fractions of shares.

Profit and Loss as a special topic.

Equation of Payments — made unnecessary by improved banking facilities.

Partnership, made unnecessary, in the old sense, by stock companies.

Cube root.

All algebra, except such simple use of the equation as is directly helpful in arithmetic.

In addition to all these, arithmetic may be omitted as a separate study thruout the first year of school, on the ground that there is no need of it, if the number incidentally called for in other work is properly attended to.

(2) In Geography the following subject matter might well go.

All explanation of the *cause of seasons,* except the mere fact of the changing direction of the sun's rays.

There is no social demand for such matter (except possibly teachers' examinations) and it is beyond the grammar school pupil's comprehension, calling into use our second standard.

The *cause of the tides,* leaving the fact only.

Quite probably *one* of our *two treatments of Asia, Africa, Australia,* and *South America.*

French and German children study their native country very thoroly, and Europe fairly well. They attempt comparatively little with the remainder of the world. We would be unwilling to *adopt* their plan. But why could we not have *one good* treatment of these four continents — with more interesting detail than we ordinarily present in either our small or our large geography, — and then expect the supplementary *reading* to continue this geographical knowledge? It should be remembered that, while we have a large amount of supplementary reading, its content is not usually prescribed. But it should be. This plan might save *one year* of geography work.

(3) In Grammar the *potential mood* can probably be omitted, and *all* of the minor classifications, such as the kinds of limiting and of qualifying adjectives, of coördinate and of subordinate conjunctions, etc. This separate subject need not then receive more

than one year of study, with one period daily. So much for the omission of somewhat definite topics, a very inadequate treatment, I must admit.

These suggestions, if adopted, might lead to some improvement. But the *main* remedy lies outside of them, and is to be found in a changed conception of thoroness. Thoroness, as we saw, involves much *selection*, with special emphasis on main issues and such details as are really necessary to them, with corresponding neglect of other facts. But the average scholarly person is disinclined to selection, involving omission. Here is the difficulty that confronts teachers when they approach a modern curriculum. Every one believes in an enriched course of study, with many options, in accordance with the environments and abilities of children and teachers. But the latter, being accustomed to begin at the beginning and take everything as they go, in spelling, in the multiplication table, etc., even to the end, — often the bitter end, — are confused when they come to such studies as literature and nature study that really have no well defined beginning or end. What can they do? Merely begin, and go as far as they can, and then sigh over the impossible task assigned.

And when finally one topic has been chosen from among a dozen suggested, as the crayfish for example, in Nature Study, note the same tendency to go from beginning to end, in this case, from head to tail, observing "all that one can find." I am not wanting to decry the average teachers here. These remarks apply rather to our so-called best teachers, to those who are really excellent in most respects.

In one of our best schools, I was recently present while a second grade class reached the conclusion that grasshoppers habitually lived in dry, sunny places, the children, when playing, having seen them there. They decided that the insect went under boards and rocks when it rained, and some related how they had fed some captive grasshoppers apple and water.

I saw a fifth grade write out a description of a dead red oak leaf, the paper nearest me reading as follows:

Red Oak Leaf.

Size, — 7½" long; 4" widest part.
Shape, — somewhat oval — widest at top.
Lobes, — alternate; long pointed, 10 lobes on leaf.
Indentation, — 10 indentations, rounded, deep, alternate.
Petiole, — short, thick, dark brown, midvein thinner near top of leaf.
Veins, — alternate, thin, not many.
Color, — dark brown, near mid vein.

What a mass of worthless matter in such instruction! Much of it so valueless that there is no pretense of reviewing it next day; it is even unnecessary for examinations. Here lies probably the greatest waste in our instruction. Where there is no careful selection of details, there is only an aggregation; chaos rules there, and despair is constant, because the field can never be covered.

The teachers are not satisfied with such haphazard work, but it is difficult to bring about improvement. However, the difficulty lies not in method, but in the choice of matter, and I desire to make *three* recommendations in regard to the remedy.

In the *first* place, the subject matter in those branches that easily offer mere aggregations of facts, like history, geography, and nature study, should be brought under as few *large* headings as possible, just as a good lecturer is under obligations to present his thoughts under a very few points. These headings, too, should be so worded as to be truly *restrictive.* Chapters in history on "Columbus" or "the early explorers," and "the settlements;" or in geography on "the Western States," do not meet this requirement; they admit a wide range of fact, much of which may be practically valueless. Suppose, on the contrary, according to the suggestions of some of my friends, we study in history How the Europeans Found a New World, How Spain Took Possession of this New World, How a Rival Sprang Up in France, How the English came to be a second Rival, etc.; also, in geography, What are the principal industries that have become established in the Western States, and their cause. Such headings, because they are definite problems and therefore restrictive, would ensure extensive eliminations of minor topics in most of the studies.

In the *second* place, those sub-topics should be selected in each branch of study that are the best *types* of large groups, and that thus give control of the strategic positions in the field. In history, for example, the *causes* of our wars might be considered in detail, but the study of the wars themselves should, I believe, be reduced to a very few crucial campaigns and battles, these being accepted as representative of the others. So irrigation about Salt Lake City, or in Southern California, might be carefully studied, once for all, as a type of such attempts the world over. There is already a growing conviction that strategic positions, as secured by types, should receive the same emphasis in the curriculum, as strategic positions in a physical way receive in warfare. As that idea is applied further, it will make us willing to omit, entirely, many topics that we now include, and do more intensive work on a few.

In the *third* place, the leading *questions* that need to be answered under each type, or other topic, need to be clearly conceived in order to find a *basis* for *selection of details*. For instance, I have an extension class of 76 primary teachers — much above the average in ability — who agreed on 22 little points that they desired to teach on the cat, as a topic in Nature Study. But until the principal questions that they had to answer in regard to the cat were known, to which these many facts might be the answers, their subject matter was absolutely unorganized, and they were unprepared to give the instruction. Now our main interest in cats is as pets, and if we set out to learn (1) to what extent cats can provide for themselves, and therefore (2) to what extent, and how, we should take care of them as our pets, we shall cover all that is necessary about them. And when we desire only the answers to these problems, we are given a standard that allows the omission of the number of teeth, the color of the hair, the length of the tail, and forty other facts that *might* consume time; in short, that lets us know when we are done with the cat. So, if we set out to find out how grasshoppers sometimes prove injurious to man, and what means may be used to destroy them, we must discuss the food of the insect, his voracious appetite, his means of locomotion and quickness, his enemies, including parasites, his protection by mimicry, and his stages of development; but we shall have no time to consider whether or not he knows enough to go under cover when it rains, provided he can find cover, or the fact that he can eat apples, since he will never get many apples to eat anyway.

Similarly, in geography, if we set out to learn what are the main industries that have sprung up in the Western States, with the causes, we shall need to consider the climate and topography, as the principal key to the situation, and then the mining, lumbering, agriculture, manufacturing, trade and manufacturing centers, etc., but we shall have no excuse for *bounding* all the states, learning *each capital* and *locating* various *capes*, *small towns*, *insignificant mountains*, etc. Above all, we shall be unwilling to drop into the *state-treatment* of our theme, which means a mere aggregation of facts, dry enough to cause a healthy child to long to play hookey, not for the *pleasures* anticipated, but for the *pains* escaped.

These three recommendations together call for such an organization of subject matter as has thus far been scarcely attempted. The thoroness customary — and probably justified — in the three R's and spelling, ignored unity of arrangement entirely; indeed, was independent of it. But the thoroness proper to other studies presupposes organization, and is based upon it. This kind of thoroness requires that much attention be directed to relative values or perspective, and to sequence, just as in a story.

And such organization must be planned from the learner's point of view. Up to the present, however, the content of studies has been determined from the scientific point of view, so far as there was a point of view, and the love of "truth for truth's sake" has been so marked that one fact has seemed nearly as good as another; hence the curriculum of the common school reveals little selection or pedagogical arrangement. Studies, like geography and nature study, are little more than conglomerate masses of fact, showing our educational development to be still in the barbarous stage. Studies in the high school and college are little better. History, for example, is no better organized there than in the grades, and probably not so well. To be sure, in some subjects, there is a more highly developed classification, but it is not the classification most appropriate to the learning mind, because the scientist's point of view is not that of the learner's; it is rather that of the philosopher, who has digested his field and then arranges it logically, not psychologically.

The extent to which pedagogical organization of most studies is lacking is most clearly revealed by turning to literature, the only branch that is not an offender in this direction. Literature shows a few large thoughts supported by innumerable details; but the latter are so subordinated to the former that the outline of the whole is simple, and relative values are apparent. Also the sequence from fact to fact is so close, that reproduction from memory is easy. Here is the ideal. The problem is, Shall other studies, likewise containing an abundance of rich thought, aim at similar organization; shall they approach a narrative form, thus providing an easy perspective, and eliminating all detail that is irrelevant or that fails to fall into line? If literature were accepted as a standard for other studies, as to selection and arrangement of matter, and if intelligence were shown in the attempt to attain this standard, we should omit much of what we now teach, and complaints against overcrowding would be fewer.

Reform in the main is not to be effected by lopping off here and there, but by changing the present aggregation of ideas in each study to an organized body of thought. But we must honestly agree to be willing to omit many things, even tho they have long been held sacred. All of us have been radicals for some years in admitting new things. Let us now apply the same spirit to the omissions.

FRANK M. MCMURRY.

HISTORY OF EDUCATION

Herbert Spencer.

BY the death of Herbert Spencer the world lost the most celebrated among contemporary philosophers. Hidden in a retreat that he might give himself wholly to the search for speculative truth, his work had a tremendous influence on the public opinion of the age. It was felt not only in Great Britain, but in foreign countries as well, especially in France and the United States.

Spencer comprehended in his " System of Synthetic Philosophy," the cycle of modern knowledge. He showed the principles of his system in " First Principles," and he applied them successively to all the branches of science, except mathematics, in the " Principles of Biology," " Principles of Psychology," " Principles of Sociology," and " Principles of Ethics." The titles themselves give an idea of Spencer's immense work, a task which was easy for the old philosophers, when science was young, but which with the rapid extension of science in all directions has become more and more difficult. The task of giving a faithful abstract of the great mass of thought in Spencer's works would be difficult and to a degree worthless. Systems of philosophy are of but short duration. That of Spencer has already grown old, but it has some elements that will live. The original ideas that have given it birth will survive and will reappear continually in newly organized systems of thought.

The first great idea in Spencer's system was that of evolution. The idea of progress, the historic progress of humanity which with certain ups and downs goes on indefinitely, dominated the first half of the nineteenth century. It is to be found in the leading thought of the world from Condorcet to Hegel, to Buckle, to Comte. Its poet was Victor Hugo. In the second half of the century, as a result of the development of the physical and natural sciences, the idea of progress gave way to the idea of evolution.

Evolution is a slow and continued growth, like that of a child's body, a development of the parts of one whole, parts which become more and more specialized and distinct, while at the same time their likenesses increase and are more strongly united. In the language of Spencer, they *differentiate* themselves and they *integrate* themselves; that is to say, in becoming unlike they are the more closely bound together. In our modern society the effects of the division of labor illustrate this idea. Laborers, farmers, inventors, soldiers and doctors are necessary, for each operation of each industry specialists are needed, thirty workers are necessary to make a cart wheel. The obvious effect is that the individuals are more and more unlike and for this very reason all the more dependent upon each other. That is one of the characteristics of social evolution.

The idea of progress is ethical and benevolent; the idea of evolution is physical and scientific. Progress is the onward movement of the human race, partly conscious and voluntary, toward an end which we naturally conceive of as a higher degree of happiness, knowledge and civilization. Evolution is a natural phenomenon, the result of blind and physical causes, a fatal change which has no end except to introduce more diversity and symmetry preparatory to a final state of equilibrium. This equilibrium itself will not continue long, for it will yield to the law of perpetual change, and instead of a long period of evolution there will be an equally long period of dissolution.

The idea of evolution is absolutely opposed to that of creation. When we begin to reflect on the causes of natural objects, when we ask, for example, how the earth was covered at a given movement with living beings, with these great organisms of so delicate a construction that all our science fails to penetrate their complexity, the first hypothesis which presents itself is that of a Creator who with powerful hands fashioned each species. Science begins by distinguishing in each class, in each family of objects, a countless number of nearly related species. It finds in the earth the remains of extinct species representing intermediary forms between living species. It recognizes in the organs of the simplest creatures, the outlines of the more perfect organs of higher creatures. Briefly, it sees a process of evolution by transformation of species and individuals, where others speak of separate acts of creation.

The idea of evolution is opposed to the idea of revolution. If the elements of everything, whether the organs of living bodies or social institutions, change only by unnoticeable degrees, a complete revolution is impossible, superficial and deceitful, appearances to the contrary notwithstanding. In 1821 Cuvier wrote his *Discours sur les Revolutions du Globe*. Nine years later Lyell's "Principles of Geology" began to appear. Lyell overturned Cuvier's hypothesis by explaining the great changes of the earth's surface by the slow and prolonged action of causes still to be found at work. In the same way Tocqueville showed that in the French revolution of 1789 some of the institutions of the Old Régime survived.

To Spencer belongs the distinction of representing most fully the philosophy of evolution. At an early age he grasped Lyell's principles. He accepted boldly the ideas of Lamarck, the French predecessor of Darwin. He soon decided to apply the principle of evolution, so fertile in results in physical science, to the science of the mind. Up to that time the philosophers, both idealists and metaphysicians, who had tried to make out the anatomy or physiology of the human brain, from Locke to Mill, from Descartes to Kant, had considered only a single mind, the mind of mankind in general. They had tried to explain the knowledge which we acquire by the accumulation of the facts of experience rather than by the development of certain innate ideas. All agreed that individual consciousness produced within itself alone all its ideas, whether it received them from without or drew them from within. Spencer inquired whether the consciousness did not receive them from former generations as a sort of inheritance. He conceived the idea that the acquisitions of thought imprint themselves and fix themselves little by little in the brain, and that, transformed into instincts, they transmit themselves from generation to generation with the other peculiarities of the organic structure. Thus there is a heredity of mind, as well as of body. The mind of the child, in its formative period, passes thru all the phases of thought of the primitive man, as fetishism, anthropomorphism, etc. But in the end, the child manifests the intellectual faculties of a man of our own age, so that he is capable of understanding, after some years of study, all the sciences which have required centuries of research and work for their ancestors to grasp.

As the human mind itself is changed in the general evolution, there is so much more reason to believe that our sciences, moral beliefs, ideals of beauty must be changing constantly, without our being able to stop the progress and to fix them at the point where our individual thought is arrested. But on the other hand we are assured that by a happy necessity, fashioned by nature, they will adjust themselves better and better to the reality, and will reproduce from it, scientifically, a more and more complete image.

Is this idea of evolution true? Spencer placed it at the heart of his system, developed it in every way. We cannot think without some compassion that the idea of evolution itself is doomed to the same fate which it announces, and must submit itself to the same law of instability, without exception and without limits, which it decrees for all things. Already, in the domain of natural history, from which the idea of evolution came, the hypothesis of transformation is no longer understood in the same sense in which Darwin took it forty years ago. The idea of evolution is not weakened thereby, but it loses the absolute character of a *first principle* which suffices to explain everything. Other laws reveal themselves in nature's handiwork contrary to those which appeared to be true when Spencer built up as his synthesis, the ruling scientific formulas, the law of heredity in biology and the law of the conservation of energy. As a matter of fact the resources of nature are infinite, and we shall never be able to penetrate them.

Thus we come to the second part of Spencer's system, which is the principle of the "Unknowable." Human science is always incomplete, as we have just seen, not only because it is surrounded by ignorance, but because it contains within itself its own limitations. To explain a fact scientifically, is simply to bring forward a more general fact which requires a new explanation, and so on without end. As a result science only puts off the mystery, but cannot suppress it.

A third idea in Spencer's system of philosophy is that of the parallelism between the facts of consciousness and the phenomena of the physical organisms. According to the doctrine of evolution, the highest powers of the human intellect, as those which characterize the poet or man of genius, have come, thru a tremendously long series of successive transformations, from elementary sensations which in the lower forms of animal life accompany the nervous reaction. But there has not been nor can there be any connection between the action of a nerve or of a cell and the state of consciousness which is joined there. Mind and matter are two correlative things, but they are distinct from the "highest Force," the "unknowable" principle. The mind is an original thing. The materialistic thesis which wishes to see in it any materialistic properties is unintelligible.

The fourth idea of Spencer's system is the sociological idea; the idea that the individual ought to be studied as related to society, if one wishes to explain his ideas, beliefs, and moral conscience. As each cell of the living body draws up nourishment from the blood which covers it, so the individual gathers all the material for his intellectual and moral life from the social body surrounding it. The child learns to spell the language of his people and the national spirit which is contained in it insinuates itself into him, and forms his mind. And then he does not stop imitating the acts and repeating the words of those about him. Long before he can think for himself, if he becomes capable of that, he is an echo of the voice of the people, an expression of the collective thought common among men of his time and country. Thus it becomes proper to study all the moral sciences, politics, political economy, ethics itself, in the light of social science. So it becomes necessary to substitute history for the idealistic and abstract synthesis. Spencer has contributed greatly to the broad views which are to-day scattered broadcast as the result of study from these ideas. But here he was a disciple of the French philosopher Comte.

Nevertheless Spencer was considerably separated from Comte in his practical conclusions. While Comte, following a dream of social organization, denied the rights of the individual, Spencer, who had breathed in his youth the radical ideas of Bentham and his school, remained attached to the principle of freedom. He never ceased to protest against the extension of the attributes of the state as in the matter of regulating hours of work and supplying schools. It almost seems that Spencer did not understand the principle which justifies the state in intervening in such matters; the idea of the *effective* liberty of the mass of the people.

SPENCER'S EDUCATIONAL THOUGHTS.

Spencer's ideas on education have entered deeply into school life. They were inspired by the principles of his philosophy. The highest law of intellectual education which is to follow all branches of instruction, the spontaneous development of the faculties of the child, is simply the conclusion of his theory of knowledge. This asserts, as we have seen, that the knowledge acquired by the past generations is as if folded away in the recesses of the brain, so that it is sufficient that one give to the tender brain the opportunity of opening and unfolding itself to render the knowledge a present reality. The highest law of moral education, which is to abandon the child to the natural consequences of his actions, so that he acquires most quickly, but always by himself, the experience of good or evil, is a consequence of the same principles, and also an application of his ideas on ethics as well.

At first glance nothing resembles the pedagogy of Spencer so much as that of Rousseau; one might think that Rousseau was a disciple of Spencer, or rather that Spencer, like all the educators of the nineteenth century, belonged to the school of Rousseau. But when the two men are examined more closely, their differences appear. Their pedagogical ideas would raise two different sorts of men. Rousseau's pupil would be a man who would protest against the vices of the state, and would resist the general enthusiasms and movements of national life. Spencer would instruct a boy so that he could adapt himself to all times and conditions.

What will remain of Spencer's attempt to write the sum of the knowledge of the nineteenth century? Will posterity give Spencer a place among the great philosophers like Aristotle, Descartes, Kant, or a little lower, with John Stuart Mill and Comte? The first view is the common impression, but we are too near the man to judge at present. A. Darlu in *Revue Pedagogique*.

An Estimate of Herbert Spencer.

THE death of Herbert Spencer has stirred varied memories in a number of men and women now in middle life. Most of the people in England and America — and probably all the people in Russia — who were perplexed by the great intellectual and social problems of the day in the latter 'Sixties or earlier 'Seventies, have had a Spencerian phase of thought — followed not infrequently by a period of reaction, ending, as the philosophic fire burnt itself out, in complete indifference. Spencer came at an epoch-making crisis, and made an epoch himself. He became fully known to the reading public just at that critical time when the old Utilitarianism and Associationism, more or less transformed by John Stuart Mill, had reached their limit of service, and when new conceptions were fast remodelling science and making a new metaphysic of nature imperative. Spencer was one of the torch-bearers of those new conceptions, the leader of that typically English thought, which comes down from Locke and Hume, away from a narrow and atomic phenomenalism to something more objective and obviously real.

It was Spencer who, by a combination of the views of the contending parties in the famous controversy between Mill and Hamilton, restored to the ordinary philosophic student that belief in a substratum behind the organized world of phenomena which it is so easy to demolish and so difficult to dispense with. It was he who, by developing the results attained by Von Baer and by Helmholtz, supplied biology and psychology respectively with a new set of regulative ideas, and who put into philosophic language those conceptions the establishment of which we mainly owe to Darwin, but which Darwin alone could not have translated into any philosophic phraseology.

As to theological thought, it is beyond our scope or power to examine his influence. His Unknowable is at least more in conformity with current religious ideas than either the early scepticism or the later positivism of Hume, or than that terribly dreary collectivism of real and rational which was made in Germany, and is even less intelligible when expounded in English than in its native tongue. His philosophy began, of course, as heresy; but popular theological thought seems to have assimilated some of its ideas, and still more of its terminology, with quite surprising success; so that, to many worthy people, "environment" is as comforting a term as the traditional Mesopotamia.

In political thought he has traveled far, and yet has found himself in some degree left behind. By the unmetaphysical world he is probably regarded only as the uncompromising individualist who has parted company with all active political forces, and preaches in the desert to a select congregation from the liberty and property defence league. But in this world, which not even his synthetic philosophy has adequately synthesized, a philosopher must be judged by his ideas rather than by his deductions or by the minor details in their application. Otherwise the greatest names in the history of philosophy would fare badly — not least Aristotle and Plato.

It seems ungenerous at such a time to mention the minor defects, most visible in the philosopher's later and more detailed works, and most conspicuous to the younger generation. Time, and perhaps increasing knowledge, have dimmed for most of us the halo which once surrounded the prophet of evolution. We see the conclusions discrepant with our own beliefs or experiences, the small flaws in the details, still more in the means adopted to verify them; while some of the leading ideas have passed so completely into our intellectual life that we cannot recognize their source — still less realize that people forty years ago had not got them all.

Spencer's Unknowable was discovered, at a very early date, to involve contradictions — which, however, is the way with ultimate ideas.

Psychologists have gone off into laboratories, and, instead of writing chapters on the associability of feelings, they make interesting and amusing experiments with ingenious machines on their own "reaction-time." Sociologists and anthropologists, like philologists, have got beyond the stage of sweeping generalization into the humbler, but usually more advanced, stage of collecting facts. Students of history and of scientific method dip into the great tables in Spencer's "Descriptive Sociology," or into the works based on them, and find there much which they do not know at all, and some things which they know to be conspicuously wrong. If they cannot trust Spencer or his secretary on ancient Rome or mediæval England, they withhold their credence as to the Bodos and Lepchas, about whom, after all, we know a good deal less.

We only mention a few defects to point out their relative unimportance. The merit of a philosophy is not in its deductions, nor will it be till a philosophy arises which is at once true and complete. The philosopher supplies his contemporaries with regulative ideas for their science; and he forms a link in the chain of philosophers which progresses towards an ever more adequate theory of things. What, then, has Spencer given us?

In the first place, as we have said, he helped the English-speaking world to a new realism — a transfigured realism, to which, in spite of all more comprehensive resolutions, mankind will again and again return. Of still greater importance is his insistence on the world as a process, a continuance — a notion which we can only estimate at its true value if we think of the theories of eternally separate species and catastrophic cataclysms, that dominated natural science fifty years ago. The refutation of these doctrines is the work of others, but it is Spencer who has enforced the refutation upon us. He it is, too, to whom we really owe our acceptance of another truth — that correspondence of life and mind, of nerve-changes and mental changes, which is the basis of modern psychology, and which was all but ignored and often denied fifty years ago. Finally, no philosopher of our time has done more to make the world understand that morality, apart from all social or supernatural sanctions, is rooted in the nature of things.

Of Spencer's political thought we have left ourselves no space to speak. We may think that he has neglected even those measures of indirect protection to the worker that are implied in his own conception of justice. We may regret that, having grasped the unity of the universe, he has done nothing with "the general mind" and its expression in the State.

Spencer's earlier works are his true monument. But we have absorbed the best of their contents and reject the rest. Perhaps under the circumstances, and for the non-philosophic world, a more visible presentation may be wanted to keep his memory alive. — From *The Speaker*.

I have taken your various papers for many years, and they have been one of my richest sources of help and pleasure. Especially has EDUCATIONAL EOUNDATIONS helped me this year. I have been thru a conflict with an old-fogy board of education, the members of which knew only the three R's, and those imperfectly. Thanks to your good publications, I have too high an ideal of teaching to become a machine, as they wished me to.

New Jersey. E. F. WAY.

EDUCATIONAL CLASSICS.

Extracts from Herbert Spencer's Essay on Education. II.

DIRECT SELF-PRESERVATION.

As vigorous health and its accompanying high spirits are larger elements of happiness than any other things whatever, the teaching how to maintain them is a teaching that yields in moment to no other whatever. Therefore we assert that such a course of physiology as is needful for the comprehension of its general truths, and their bearings on daily conduct, is an all-essential part of a rational education.

INDIRECT SELF-PRESERVATION.

We need not insist on the value of that knowledge which aids indirect self-preservation by facilitating the gaining of a livelihood. This is admitted by all; and indeed by the mass is perhaps too exclusively regarded as the end of education. But while every one is ready to endorse the abstract proposition that instruction fitting youths for the business of life is of high importance, or even to consider it of supreme importance, yet scarcely any inquire what instructions will so fit them. It is true that reading, writing, and arithmetic are taught with an intelligent appreciation of their uses; but when we have said this we have said nearly all. While the great bulk of what else is acquired has no bearing on the industrial activities, an immensity of information that has a direct bearing on the industrial activities is entirely passed over.

To all such as are occupied in the production, exchange, or distribution of commodities, acquaintance with science in some of its departments is of fundamental importance. Whoever is immediately or remotely implicated in any form of industry (and few are not) has a direct interest in understanding something of the mathematical, physical, and chemical properties of things; perhaps, also, has a direct interest in biology; and certainly has in sociology. Whether he does or does not succeed well in that indirect self-preservation which we call getting a good livelihood, depends in a great degree on his knowledge of one or more of these sciences; not, it may be, a rational knowledge; but still a knowledge, tho empirical. For what we call learning a business really implies learning the science involved in it; tho not perhaps under the name of science. And hence a grounding in science is of great importance.

THE REARING OF OFFSPRING.

Is it not an astonishing fact, that tho on the treatment of offspring depend their lives or deaths, and their moral welfare or ruin, yet not one word of instruction on the treatment of offspring is ever given to those who will hereafter be parents? Is it not monstrous that the fate of a new generation should be left to the chances of unreasoning custom, impulse, fancy?

For regulating the third great division of human activities, a knowledge of the laws of life is the one thing needful. Some acquaintance with the first principles of physiology and the elementary truths of psychology is indispensable for the right bringing up of children.

CITIZENSHIP.

What knowledge best fits a man for the discharge of the functions of citizenship? That which it concerns us to know, first of all, is the natural history of society. We want all the facts which help us to understand how a nation has grown and organized itself. Such alone is the kind of information respecting past times, which can be of service to the citizen for the regulation of his conduct. The only history that is of practical value is what may be called descriptive sociology. But, even supposing an adequate stock of this truly valuable historical knowledge has been acquired, it is of comparatively little use without the key. And the key is to be found only in science. Without an acquaintance with the general truths of biology and psychology, rational interpretation of social phenomena is impossible. Only in proportion as men obtain a certain rude, empirical knowledge of human nature are they enabled to understand even the simplest facts of social life: as, for instance, the relation between supply and demand. And if not even the most elementary truths of sociology can be reached until some knowledge is obtained of how men generally think, feel, and act under given circumstances, then it is manifest that there can be nothing like a wide comprehension of sociology, unless thru a competent knowledge of man in all his faculties, bodily and mental. Hence it necessarily follows that biology and psychology are indispensable as interpreters of sociology. In other words, we see more simply: All social phenomena are phenomena of life—are the most complex manifestations of life—are ultimately dependent on the laws of life—and can be understood only when the laws of life are understood. Thus then, we see that for the regulation of this fourth division of human activities we are, as before, dependent on science.

REFINEMENTS.

Far from thinking that the training and gratification of the tastes are unimportant, we believe the time will come when they will occupy a much larger share of human life than now. When the forces of nature have been fully conquered to man's use; when the means of production have been brought to perfection; when labor has been economized to the highest degree; when education has been so systematized that a preparation for the more essential activities may be made with comparative rapidity; and when, consequently, there is a great increase of spare time, then will the poetry both of art and nature rightly fill a large space in the minds of all.

But it is one thing to admit that æsthetic culture is in a high degree conducive to human happiness, and another thing to admit that it is a fundamental requisite to human happiness. However important it may be, it must yield precedence to those kinds of culture which bear more directly upon the duties of life. Accomplishments, the fine arts, belles-lettres, and all those things which, as we say, constitute the efflorescence of civilization, should be wholly subordinate to that knowledge and discipline in which civilization rests. *As they occupy the leisure part of life, so should they occupy the leisure part of education.*

Recognizing thus the true position of æsthetics, and holding that while the cultivation of them should form a part of education from its commencement, such cultivation should be subsidiary; we have now to inquire what knowledge is of most use to this end—what knowledge best fits for this remaining sphere of activity. To this question the answer is still the same as heretofore. Unexpected as the assertion may be, it is nevertheless true, that the highest art of every kind is based upon science—that without science there can be neither perfect production nor full appreciation. Science, in that limited technical acceptation current in society, may not have been possessed by many artists of high repute; but acute observers as they have been, they have always possessed a stock of those empirical generalizations which constitute science in its lowest phase; and they have habitually fallen far below perfection, partly because their generalizations were comparatively few and inaccurate. That science necessarily underlies the fine arts becomes manifest, *à priori*, when we remember that art-products are all more or less representative of objective or subjective phenomena; that they can be true only in proportion as they conform to the laws of these phenomena; and that before they can thus conform the artist must know what these laws are.

We do not for a moment believe that science will make an artist. While we contend that the leading laws both of objective and subjective phenomena must be understood by him, we by no means contend that knowledge of such laws will serve in place of natural perception. Not only the poet, but also the artist of every type, is born, not made. What we assert is, that innate faculty alone will not suffice; but must have the aid of organized knowledge. Intuition will do much, but it will not do all. Only when genius is married to science can the highest results be produced.

Science is necessary not only for the most successful production, but also for the full appreciation of the fine arts. In what consists the greater ability of a man than of a child to perceive the beauties of a picture, unless it is in his more extended knowledge of those things in nature or life which the picture renders?

And let us not overlook the further great fact, that not only does science underlie sculpture, painting, music, poetry, but that science is itself poetic. Those engaged in scientific researches constantly show us that they realize not less vividly, but more vividly, than others the poetry of their subjects. Whoever will dip into Hugh Miller's works on geology, or read Mr. Lewes's "Seaside Studies," will perceive that science excites poetry rather than extinguishes it. And whoever will contemplate the life of Goethe will see that the poet and the man of science can coexist in equal activity.

Is it not, indeed, an absurd and almost a sacrilegious belief that the more a man studies nature the less he reveres it? Think you that a drop of water, which to the vulgar eye is but a drop of water, loses anything in the eye of the physicist who knows that its elements are held together by a force which, if suddenly liberated, would produce a flash of lightning? Think you that what is carelessly looked upon by the uninitiated as a mere snow-flake, does not suggest higher associations to one who has seen thru a microscope the wondrously varied and elegant forms of snow-crystals? Think you that the rounded rock marked with parallel scratches calls up as much poetry in an ignorant mind as in the mind of a geologist, who knows that over this rock a glacier slid a million years ago? The truth is, that those who have never entered upon scientific pursuits know not a tithe of the poetry by which they are surrounded. We find, then, that even for this remaining division of human activities scientific culture is the proper preparation. We find that æsthetics in general are necessarily based upon scientific principles, and can be pursued with complete success only thru an acquaintance with these principles. We find that for the criticism and due appreciation of works of art a knowledge of the constitution of things, or, in other words, a knowledge of science, is requisite. And we not only find that science is the handmaid to all forms of art and poetry, but that, rightly regarded, science is itself poetical.

WHICH IS BEST FOR DISCIPLINE?

We may be quite sure that the acquirement of those classes of facts which are most useful for regulating conduct, involves a mental exercise best fitted for strengthening the faculties. It would be utterly contrary to the beautiful economy of nature if one kind of culture were needed for the gaining of information and another kind were needed as a mental gymnastic. Everywhere thruout creation we find faculties developed thru the performance of those functions which it is their office to perform,—not thru the performance of artificial exercises devised to fit them for these functions. We may be certain *à priori*, that the education of most value for guidance must at the same time be the education of most value for discipline.

WHAT KNOWLEDGE IS OF MOST WORTH?

Thus to the question with which we set out—What knowledge is of most worth?—the uniform reply is—science. This is the verdict on all the counts.

For direct self-preservation, or the maintenance of life and health, the all-important knowledge is—science.

For that indirect self-preservation which we call gaining a livelihood, the knowledge of greatest value is—science.

For the due discharge of parental functions, the proper guidance is to be found only in—science.

For that interpretation of national life, past and present, without which the citizen cannot rightly regulate his conduct, the indispensable key is—science.

Alike for the most perfect production and highest enjoyment of art in all its forms, the needful preparation is still—science.

And for purposes of discipline—intellectual, moral, religious—the most efficient study is, once more—science.

The study of science, in its most comprehensive meaning, is the best preparation for all these orders of activity. And yet the knowledge which is of such transcendent value is that which, in our age of boasted education, receives the least attention.

EDUCATIONAL FOUNDATIONS is very popular with our teachers' classes. The courses are well chosen, suggestive, comprehensive, and pre-eminently profitable. It is bound to help teachers in a professional way. In this respect, it is superior to the conventional text-book work in pedagogy, philosophy, art, etc.

Easton, Pa. J. H. LINDEMANN.

CLASSIC ANTIQUITY.

Life in Ancient Greece. IV.

PUBLIC LIFE OF THE GREEK CITIZEN.

The greater part of the shops in Athens, and most of the trades were in the hands of licensed aliens, who paid certain taxes to the state, and by making large profits recouped themselves for the risk of being persecuted and plundered by the citizens in days of danger and distress. These people may be compared as to their social and political position with the Jews in the middle ages, who lived all thru the cities of Europe without civic rights, or landed property, merely by trade and usury. They were despised and persecuted, but still tolerated as useful, and even necessary, by the governments of those days.

Rich capitalists who were able to manage a large business thru an overseer and a number of slaves were not at all despised, even tho their ways of making profits were sometimes very shameful. But any free man who was compelled by poverty to perform this manual labor was held little better than a slave. There were certain privileged classes in Homer's day, such as the leech, the seer, the bard, and the cunning worker of brass. So in later days the sculptor and the sophist were in some respects considered good society, but still the gaining of money by giving up their time to others told very seriously against them.

THE PRINCIPAL TRADES.

A great part of the ordinary clothing and breadstuffs were prepared by the slave within the Greek house. The principal tradesmen who supplied the other necessaries of life were the architect, who was often a great and important person — indeed the only tradesman very honorably mentioned; under him masons, carpenters, and cabinet-makers. There were potters, who must have been a very large body, considering the great demand for their wares, as neither glass nor wooden vessels were much used. So there were separate makers of lamps, jewelry, weapons of war, musical instruments.

There were few weavers, and hardly any tailors, as the forms of dress were perfectly simple and the fashions did not change, but many bleachers and dyers of clothes. The making of shoes was even subdivided among several tradesmen.

There were in the market, cooks (hired by the day), ropemakers, tanners, and also many perfumers and druggists. Tanners were generally compelled to have their workshops outside the city.

We may also without doubt consider military service by sea or land one of the ordinary trades of Greece, practised from very early times in Asia, and all thru Greek history by the Arcadians who were the Swiss of the old world. The usual pay for a mercenary soldier or sailor was four obols, which was of course often raised in times of difficulty. When the former outlet which enterprising young men had found in new colonies, was closed by the rise of new races and new empires, this trade, disreputable as it was, became very common indeed. The celebrated 10,000 whom Xenophon brought safely from the heart of the Persian empire were an army made up of these adventurers, who had followed the younger Cyrus merely for the sake of pay and plunder. Thus Agesilaus and Cleomenes, kings of Sparta, were not ashamed to serve in Egypt as mercenaries.

MERCANTILE PURSUITS.

It was the fashion among Greeks to sell one's own produce in the market. But of course such people as fishermen, or shepherds, could not leave their business to journey a long way to a market-town. Thus we find in large places like Athens many butchers, fishmongers, vegetable and other grocers, and particularly wine sellers, who went about with their wine in carts. These people were accused of extortion and insolence, the fishmongers of selling stale fish, the vintners of watering their wine. There were street cries, and often even the buyer going into the market called out what he wanted.

The wholesale merchant was of course a more important person, and the rise of this larger trade was in fact what raised up a wealthy city class in opposition to the landed aristocracy, and was generally the cause of overthrowing oligarchies. Many respectable citizens (except in Sparta) thought it no disgrace to follow this sort of business, and none of them scorned to invest money in it as a speculation. As the land traffic in Greece is unusually difficult and roundabout, almost all commerce was carried on by sea.

The Greek waters were in summer so covered with traffic and life, that a Greek poet speaks of sailors as the "ants of the sea," hurrying in all directions with ceaseless industry. There were public wharfs and warehouses close to the quays. With the exception of the corn and slave factors, the Greek merchants did not confine themselves to trading in one kind of goods, but conveyed anything according as they saw chances of profit. Pottery from Samos and

Athens, fine woolen stuffs and Assyrian carpets from Miletus, paper, unguents, and glass from Egypt, salt fish, skins, and corn from the Black sea, ship timber and slaves from Thrace and Macedonia, ivory and spices from Cyrene — these were among the usual articles imported and exported thru the Greek waters. Merchants were in some places treated with peculiar favor, had their taxes and military duty forgiven, and above all, were granted a speedy trial, and in the idle winter months, in case of disputes about contracts, or other lawsuits.

OF WEIGHTS, MEASURES, AND COINAGE.

All these great helps to trade were originally imported from the Babylonians thru the Phœnicians into Greece, but with so many variations that the computing of values according to the different standards is very intricate.

As to measures of length it seems that the Olympic *stadium* or furlong was generally received thru Greece. It was divided into six plethra of 100 feet each. A foot was nearly equal to our English foot. Surfaces were measured by the *plethrum* squared.

Cubic measures started from the half-pint used for both fluids and solids.

In these measures the Æginetan, Attic, and Olympic standards varied. The latter, tho originally brought from Babylon, was somewhat smaller, the cubic foot being only two-thirds of the Babylonian. To this Olympic cubic foot the Attic was as 27 to 20, the Æginetan as 9 to 4. Similarly as to weight, the Babylonians had fixed a cubic foot of rain water as the standard weight of their talent. The Attic talent was much smaller, whereas the Æginetan was nearly equal to the Babylonian, as was the older Eubœic talent, reduced by Solon.

All the various talents however agreed in having 60 minæ; each mina 100 drachmæ, each drachme 6 obols. The terms Æginetan and Eubœic point to the fact that the early Greek trade was chiefly in the hands of these people, where the weights and coinage were first fixed, just as the Attic standard became almost universal afterwards. The Attic talent was about $1200, the obolus 3 cents. Silver was the only metal habitually coined for a long time in Greece, as gold was very scarce. The Macedonian mines first produced gold enough for ordinary coinage. So also copper coinage came in from Sicily and Magna Græcia, where the talent was regarded as a weight of copper, and only equal to six (or even less) Attic drachmæ. Later, and in copper coinage, each obol was divided into fifty-six lepta, so that there was a coin in use less than the fifteenth part of one cent. This shows how much scarcer money was then than now, and how the public treasures and private fortunes, which seem to us so small, were really large in proportion to the price paid even for the luxuries of life.

Debasing the coinage, and using alloy, were common devices among the Greeks, whose local coins seem seldom to have had any general currency. It was specially noted of the Attic money, that it passed everywhere, on account of its excellence, just as English gold and notes now command respect abroad. But the people had no token money, like our paper coinage, except in the few isolated instances where they used iron money, of which we hear at Byzantium.

Such a thing as a traffic in money, or a stock exchange, was unknown to them, and we find intelligent men of business in Demosthenes' day supposed to have hidden money (during peace) in the ground, a practice which proves a complete ignorance of the value of investment.

THE HIGHER PROFESSIONS.

(1.) Politics. — The general principle of Greek states was to consider high political office as both a duty and an honor, but not a profession, so that no salaries were attached to such duties. It is certain, however, that the indirect profits were very great, inasmuch as the bribery of that day was applied, not to the electors, but to the holders of even very high office. The lower state officials, such as secretaries and heralds, were paid moderate salaries.

When Athens became an imperial city, the sovereign people were paid sundry emoluments from the taxes of their subjects. For example, those Athenian citizens who were employed as dicasts or judges in court received three obols per day — an income on which most of the poorer citizens lived. They were also paid by public distribution a sufficient sum for their entrance to the theater, and to enjoy themselves, at the great festivals of the city. These profits were the direct result of political privileges.

(2.) War. — As the trade of mercenary warfare was common, so that of mercenary general was practiced, even by distinguished Greeks, such as Agesilaus and Cleomenes, in later days. As the pay was only four times that of the common soldier, it is evident that extortion and plunder must have been presupposed as an additional means of gain, and this was the case with many of the older citizen generals of whom we read in history, such as Pausanias, Themistocles, and others. The profession of military engineer was not common, but was practiced with success and fame by a few remarkable men, such as Artemon, whose mechanical genius made them very valuable.

(3.) Law. — As men pleaded their own case among the Greeks, the legal profession, as far as we know, could only give friendly advice, or compose speeches for litigants, and this was an extended and lucrative profession at Athens. In some cases friends or supporters were allowed to speak in addition to the actual litigants, but paid counsel were not directly recognized. When the state retained what we should call a prosecutor, he was only paid one drachme (10 cents) for a speech, which reminds us of a mediæval entry quoted by Hallam, where 8 cents and his dinner was a lawyer's fee. But distinguished orators like Demosthenes obtained large private fees. There was also in almost all democracies special encouragement for any citizen to denounce any violation of the laws which he could detect. This gave rise to a profession called *sycophancy*, which usually degenerated into that of a spy or informer; and such men constantly extracted money from rich people and from politicians by threats of accusation.

(4.) Literature. — In addition to the school-masters, who were not in high repute, and were rather considered a trade than a profession, there were the *sophists*, who were both rhetoricians and philosophers, and who performed exactly the functions now expected from universities, as distinguished from schools. People spoke of a pupil of Isocrates' as they now do of "a Harvard man." These men taught politics, rhetoric, literary criticism, and higher science in a practical way, and made large incomes in spite of their great unpopularity with the old-fashioned side of both political and social Greece. At first they obtained enormous fees, but by competition these were reduced to an average of from five to ten minæ for a course of instruction. Their course lasted about three years.

We do not hear of any *authors* making a livelihood by their work, except poets, who were largely paid for occasional poems by both states and kings, and whose dramatic works were a source of profit as well as honor. Copies of books were easily multiplied by means of slave labor, so that we hear of Anaxagoras' treatise being sold for one drachme, when very dear. This was at a regular bookstall in Athens, from whence books were actually an article of exportation as far as the Black sea. Still collections of books were rare till after the time of Euripides, and we know of no fortunes made by writing books. Anaxagoras himself, tho so popular with the rising generation, is said to have died in poverty. There can be no doubt the old epic rhapsodists lived at the courts of kings by way of direct remuneration for their poems.

(5.) Fine Arts. — As might be guessed from the ruins of their work, the profession of architect was esteemed far the greatest among artists, and was the most richly paid. They were no doubt men of culture, and were literary men, as for example, Ictinus, one of the architects of the Parthenon, who wrote a special work about the great temple. The professions of sculptor and painter were not so at first, the sculptor being hardly more than a skilful workman, and this seems to be the case in most great art epochs.

Men like Pheidias and Polygnotus, who were of a higher level, often worked without accepting any pay, but the sculptors who adorned the Erectheum at Athens, one of the most beautiful of Greek temples, were either paid by the day from one to two drachmæ, or by the job, receiving 200 to 240 drachmæ (under $50) for each figure or small group of figures. This was in Pericles' time, when art had reached its highest perfection. But in later days enormous prices were given for great statues and pictures. At the same time inferior artists had a hard and struggling position.

Similarly in music, tho amateur singing and playing were very common, it was not thought gentlemanly to live by them, and professional musicians were ranked with actors and jugglers, and the other classes who lived by amusing the rich. At later periods, however, both celebrated musicians and celebrated actors became important personages, and were courted by a society which had abandoned higher and more serious pursuits.

(6.) Medicine and Surgery. — The medical profession had always a high position in Greek life, from the days of Machaon and Podalirius, in Homer, down to the doctors of Plato's day, who sometimes brought an orator with them to persuade the patient to take their remedies. This was done because it was the fashion to discuss everything in Greece, and people were not satisfied to submit silently to anybody's prescriptions, either in law, politics, religion, or medicine. There were not, besides, any accredited bodies, like our universities, and hospital schools, whose degrees were acknowledged all over Greece, tho certain medical guilds enjoyed considerable fame.

There was of course a great deal of superstitious quackery, which dealt in amulets and charms, and there were slave assistants, who visited slave patients, but the higher members of the profession were not only well paid, but appointed publicly by the various cities as official physicians. These salaries at times reached $2500 a year — a very large income in Greece. Such men gave advice without special fees.

The most famous schools of medicine were at Croton, Cnidus, Rhodes, and Cos, where the name of Hippocrates is celebrated as the founder. These schools were guilds or trade unions, into which the apprentice entered with a very remarkable and solemn oath. Such accredited physicians were specially exempted by law in some cities from prosecution for manslaughter, if their patients died. The descriptions of the symptoms and the treatment of various diseases still preserved in the works attributed to Hippocrates, are so striking for their good sense and acute observation, that the most competent judges consider them the foundation of all rational medicine in Europe.

(7.) Religious Offices. — Besides the various traveling soothsayers and diviners, there were many hereditary priesthoods attached to special temples, with small duties and large emoluments, and such places were at times bought for money. There were also unattached prophets of high character like Lampon who led the colony to Thurii — men of mark and influence. We have no information left us about their incomes.

SOCIAL AMUSEMENTS.

The social intercourse of a lighter kind may be divided into entertainments, visits, athletic meetings and festivals, if we may separate, for arrangement's sake, what was usually combined.

According to Homer, the chiefs seem prepared at all hours to sit down to a heavy meal of roast meat, bread, and wine, without special regard to hours. But the regular time for dinner was midday, as is almost universally the case in undeveloped society. Gradually the hour of dinner was pushed back from noon to afternoon, and then to evening, so that, in historical days, we must not imagine a dinner party much before five o'clock.

When a Greek gentleman went out to dinner, he brought an attendant slave with him, who often served him at his host's table (as is still the custom in the wild parts of Greece), but at all events took charge of his shoes, which he put off on entering. He was then offered water to be poured over his hands. The guests assembled in the dining-room itself, and took their places on couches, to which they went up by a stool. In Homeric times people used to sit, each at a separate small table. With the increase of luxury men came to lie, resting on their elbows, whereas children and respectable ladies, if they dined with men at all, were always required to sit, and at separate tables from the men. Two, or at most three, lay on each couch, and had a table to themselves. They used spoons, perhaps sometimes knives, but never forks.

The dinner consisted of herbs, salt fish and oysters, by way of preliminary relish, then came the first course, of fish, flesh and fowl, cooked in various ways, after it the second, which was of sweetmeats. It was not customary to drink any wine during dinner, but, possibly, water. At its conclusion water was poured by slaves on the hands of the guests, which had already been wiped by morsels of dough, which they threw under the table, and a taste of unmixed wine was taken as a sort of toast to the "good dæmon" (at least in Attica). Then came the pæan or grace, and then the tables were cleared or changed for drinking.

The wine was mixed in a large vessel, of which three were generally in the room; and as each was broached by the slaves, a libation was offered to the Olympic gods from the first, the heroes from the second, and to Zeus Soter from the third. The guests were generally crowned with garlands, and drank mutual healths. Then conversation began and songs with or without the lyre, also riddles and jokes, and above all *scolia*, which consisted in one man starting a song which must be continued in meter and sense by any guest to whom he handed the myrtle branch which he held. They also played *cottabos*, which was the throwing of the last drops in their cup into a metal bowl, and taking the sound as an omen in their love affairs.

There were besides professional makers of amusement, jesters who came in uninvited (parasites), and were made the butt of the company, jugglers who performed their tricks and even had a sort of ballet danced by their attendants. There were also dancing girls and flute girls, who were dispensed with in serious society. Games, such as dice and draughts, were common, but not perhaps in the evening. The conduct of late drinking parties was not very different from what it now is.

VISITS AND TRAVELING.

Seeing that the Greek inns offered (as they now do) very bad accommodation, and were besides kept by extortionate people, and often of ill-repute, it was not usual for the Greeks to travel for pleasure, unless they either went to a public feast or athletic meeting, where special accommodation was provided, or to a private guest-friend, who invited them to his house in a foreign city.

In all the larger Greek towns the art collections were always the main object of curiosity, which every one went to see. There were the temples either venerable for age or remarkable for architectural splendor, and in them the statues of the gods, and the portraits of heroes and victors which were the work of famous sculptors. The inner walls of both temples and porticoes were often covered with frescoes, and had even separate pictures hung upon them. In fact just as we nowadays go to see in such a town as Antwerp or Rouen the churches, the pictures, the statues or carvings, and the antiquities, so every educated Greek enjoyed the arts, and thought his life incomplete without having seen their highest products. Crowds went to see the Pheidian statue of Zeus at Olympia, the Eros of Praxiteles at Thespiæ, the cow of Myron at Athens. Such great works were constantly copied, and to this practice we owe the inestimable benefit of finding in Roman galleries close imitations of the Greek masterpieces brought from Greece itself.

Each important state was indeed represented in considerable cities by a *proxenus*, who corresponds to our modern consuls, but of course he could not be expected to offer hospitality to all travelers, tho he did so to official visitors. Every distinguished family had accordingly family friends in foreign cities to whom they were bound by mutual ties of hospitality. These friendships were handed down from generation to generation, and when the traveler had never seen his host he often brought with him a token formerly given to his family by the family which he went to visit. On his arrival the host gave him a separate set of apartments, and supplied him with light, firing, and salt; he also sent him his dinner the first day, and invited him to dine afterwards, but for the rest the guest was attended by his own servants, and supplied himself.

As to the actual traveling, so much of it was done by sea that there seem to have been but indifferent means of journeying on land. To Delphi, Olympia, and such public resorts there were good roads, which could be traveled in carriages, but elsewhere pack mules and riding, or even walking was, as it now is, the only way of crossing the country, and was indeed called walking. The slaves often carried the luggage, which included bedding, as the Greeks commonly slept on the ground, wrapped in rugs. On sea the means of communication were very ample and very cheap. But the accommodation was very bad, in no way better than that of our steerage passengers, and often without any covering. However, people only traveled by sea in the fine season, and when the summer heat makes all cabins unbearable.

ATHLETIC MEETINGS.

Contests were always held conjointly with festivals, and there were hardly any great festivals without athletic meetings, so that in this article and the next we must separate two phases in the greatest and most complex enjoyment of Greek society. In fact the Greeks always combined religion with sport. The greatest of these meetings was undoubtedly that held at Olympia every five years, and at which the victors were recorded since 776 B. C. It was gradually thrown open to all Peloponnesians, then to all European Greeks, and finally to all the colonies, in 620 B. C. This extension was followed by the founding in rapid succession of the public contests at Delphi (586), the Isthmos of Corinth (582), and Nemea (576 B. C.). They were celebrated in honor of the peculiar god revered at the place — Apollo at Delphi, Poseidon at the Isthmus, Zeus at Nemea and Olympia. There was a solemn truce declared thruout Greece during the Olympic games, and all the world flocked thither to enjoy the sports, meet their friends, transact mercantile or even political business, and publish or advertise new works and new inventions. At Delphi musical and poetical contests predominated, but at the others the athletic elements. There were also horse races with chariots and for riders.

The athletic contests consisted of races, wrestling, boxing, throwing the discus, and throwing the spear. The competitors were trained very carefully, and were submitted to the most careful inquiry as to pure Hellenic parentage and honorable character by the judges, who were chosen a year before each feast, and who made their duties a matter of deep study.

Tho extraordinary feats were sometimes recorded, the Greeks did not understand athletics at all well. Their trained men are described as generally sleepy, they fed on enormous quantities of meat, and were obliged to swear that they had spent ten months in training before the games. Good generals, such as Alexander and Philopœmen, discountenanced athletics as producing bad soldiers. But, nevertheless, the combination of art contests with athletics made the Greek meetings fine and imposing.

MUSICAL AND DRAMATIC CONTESTS.

In addition to athletic games, many musical and poetical contests were encouraged at the festivals, as for example, at the Pythian games, held at Delphi, and at the Dionysia, held at Athens. So much did these competitions come into fashion that the best advertisement and publication of a new poem, or of a novelty in music, was its production on one of these occasions. The great tragedies handed down to us were all composed in this way, and brought out at Athens in honor of the god Dionysus. For a fee of two obols, granted him by the state, every citizen and his wife, at some contests even resident strangers, could go and sit in the theater, and hear four plays of Æschylus pitted against four plays of Sophocles and four of Euripides.

The endurance of an audience not given to reading, and not fond of staying at home, is of course much greater than that of our modern play-going people; and besides these plays were only brought out twice a year, and were always new plays, and often of great merit. But even with all these allowances, it is not easy to conceive how the audience could endure and enjoy it so much. They are said to have had wine and sweetmeats handed round to them during the play, and Aristotle alludes to their eating such sweetmeats when the acting was bad.

A certain number of judges were chosen by lot, and they assigned the prize (originally a goat) to the poet of the best plays.

The tragedies, which had a satyric or serio-comic drama added by way of contrast to each group of them, were even more relieved by the comedies, of which we have splendid specimens in the remaining plays of Aristophanes. These were the bitterest satires on the politics, the manners, and the tendencies of the day, and with no lack of coarseness and ribaldry, gave a great deal of sound advice, and a great deal of wholesome reproof. They corresponded very much to our leading articles and reviews. To these women were not admitted.

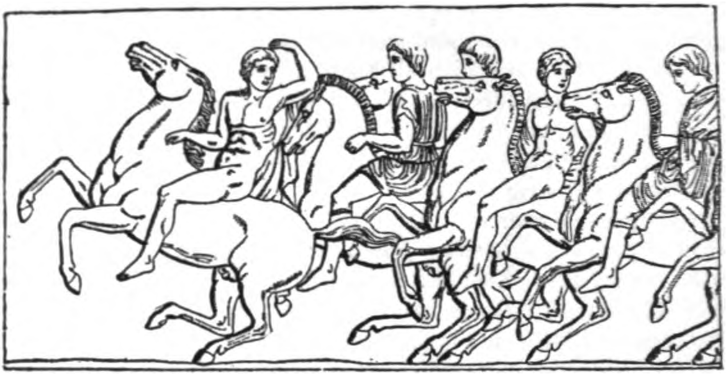
Such intellectual feasts, provided in the service of religion, but really becoming an engine in the politics and the culture of the day, must have been a most anxiously looked for and important amusement among the citizens of all important Greek cities. The huge remains of the Greek theaters in various places — Syracuse, Argos, Athens, and even in small and obscure towns, show how the whole population must have resorted to them. Indeed in later days, the theaters became places of assembly for the people in democratic cities.

FESTIVALS.

As the games and dramatic shows were in honor of the gods, or sometimes in honor of deceased heroes — such as those at Patroclus' funeral, described in the Iliad — so they were originally a secondary part which gained the upper hand; the real celebration consisted in sacrifices, prayers, and solemn processions. These sacrifices were combined with public feasts, as a great many victims were slain. An inscription tells us of 169 oxen being required for one feast at Athens.

In all processions the military, or citizens in armor, and on horseback, formed, as they now do, an important and imposing part.

We have, fortunately, preserved to us in the frieze which ran round the wall of the cella of the Parthenon at Athens, a splendid representation of such a procession.



There were also great choral odes performed, and stately dances, on which much care was employed, and no expense spared. But we are bound to add that in addition to all the splendor of the festivals and athletic contests, there was the usual collection of mountebanks, jugglers, thimble-riggers, and other bad characters, who now frequent horse races. This was so much the case in later days, that Cicero indignantly denies the report that he had gone to the Olympic Games, just as some sober divine might now object to being seen at "the races."

On the other hand we must regard the home festivals in each Greek city among the most humane and kindly institutions in their life. They corresponded to our Sundays and holidays, when the hard-worked and inferior classes are permitted to meet, and enjoy themselves. This was particularly the case with the slaves, who were treated more like our horses than our servants, but who enjoyed many indulgences on these special days. The women also, in such cities as usually insisted upon their seclusion, were allowed to join in processions, and see something of the world; and "the stranger that was within their gates," or who came to worship at the feast, was received with kindness and hospitality. No executions or punishments were allowed; prisoners were let out on bail, and the sentences of the law for debts or fines were postponed in honor of the gods, who were worshiped not in sadness, but with joy.

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REVIEW QUESTIONS.

Based upon the contents of EDUCATIONAL FOUNDATIONS
for December, January, and February.

Selections from the best lists of answers received by the Editor will be published. Quotations should be indicated in the text. A copy of a valuable pedagogic book will be sent to the one from whose list the largest number of answers are selected.

(Continued from the March number.)

1. What is (a) heuristic method? (b) A deductive method? (c) Give an example of each. (d) Compare the two methods; point out agreements and differences.

2. Compare thought activity in children and adults. (Wherein are found the principal differences? Illustrate.)

3. Outline rational principles of action for training pupils to think.

4. What cautions must be observed in adopting as rules of procedure the following maxims?

(a) "From the concrete to the abstract." (Modify.)

(b) "Begin with the elements."

(c) "From the near to the remote."

5. What should be the status of "special" teachers in a school system? (Their relation to the superintendent, principal, assistant teachers, pupils.)

6. What precautions should be observed in every well-regulated school with reference to the pupil's eyesight and the care of their eyes?

7. What forms of questioning should be avoided in teaching? Give reasons.

8. What rules must the teacher observe in questioning if he wishes to secure good answers?

9. Give five examples of good forms of questioning and analyze each.

10. Describe a scheme of nature study for the first three school years. (Give reasons.)

11. Ferrero says that "The capriciousness of the average educator greatly and needlessly increases a child's difficulty in arriving at a clear understanding of his duties." Discuss and apply to school and teacher.

12. "A sin which educators frequently commit is that they

unconsciously cause children pain by not taking them seriously enough in some matters and too seriously in others." (Ferrero). Cite examples, discuss and make pedagogical deductions for teachers.

13. What do you consider the cardinal sin in child education as commonly conducted? Give reasons, illustrate, give practical deductions.

14. What does the "happiness of childhood" really consist in? Discuss with care, taking account of states of feeling in children (their character, intensity, continuance, etc.).

Principles of Reading.

Three years ago, teachers of Princeton, Ill., schools, M. G. Clark, superintendent, made a study of public school reading. The subject was at that time thoroly discussed and the following principles were derived:

1. Reading is a silent process.
2. It has to deal with the translation of artificial symbols into "reality images."
3. The test of the child's reading is his ability to tell in his own words the thought of the paragraph.
4. Reading as ordinarily taught is a mere process of symbol naming on the part of the child, which is judged as good or poor as the process is or is not "reflexive" in its nature.
5. Reflex reading destroys thought. It makes the child dreamy, sleepy, inattentive and disinterested in his work.
6. The inability of the child when he begins the formal study of geography, history and science to "get the content" is due in great measure to habits of "reflex reading."
7. Therefore the teaching of reading demands:
    a. That one-half to one-third of the time of the reading class shall be given to silent reading.
    b. That after the class has read silently a paragraph, they shall be tested in the reading by reproducing in their own words the substance of the paragraph.
    c. Silent reading with its test should gradually increase in amount from the first to the seventh grade.
    d. The silent reading should be as regularly and as carefully taught as the oral reading and the reproductions should be carefully watched and good language and clear expression insisted upon.

DAVID PERKINS PAGE

Born July 4, 1810, at Epping, N. H.
Died Jan. 1, 1848, at Albany, N. Y.

TEACHERS' EXAMINATIONS.

The questions given in this department have been selected from papers used at recent teachers' examinations in several states. The answers are necessarily suggestive rather than final, tho their accuracy can be depended upon as far as they go.

New York State Uniform Examination Questions.

Held Jan. 14 and 15, 1904.

METHODS AND SCHOOL ECONOMY

1 Education implies the formation of habits and the acquisition of tastes. Name three important habits that should be formed early in life.

2 Describe a good method for ventilating a school room.

3 State two distinctive differences between primary and advanced methods.

4 Is the fact that a teacher is able to use a given device successfully in one school a guarantee that he will be able to do so in another? Give reason for answer.

5 What is the most important work of the teacher? Give reason.

6 Name five books on the subject of education, valuable to teachers. (State the author of each, or otherwise identify the books named.)

7 In the discipline of a school room, mention five things to be required of pupils, essential for their training.

8 What is meant by *a*) a high motive, *b*) a low motive?

9 With primary children, in what way must all ideas be obtained?

10 In studying history is it more important for pupils in advanced classes to learn the habits, customs, and manner of life of the common people, or the story of dynasties and wars? Give reasons for your answer.

ANSWERS

1 Justice, charity, obedience.

2 Fit a board across the bottom of a window. This will diffuse air over the room.

3 One is inductive, the other deductive.

4 No. A method is only a generality which must be adapted to the individual case.

5 Character-building. Upon it all other traits or accomplishments depend.

6 Spencer's "Education." Shaw's "School Hygiene." Munson's "Education Through Nature." Kemp's "History of Education." Taylor's "School Management."

7 Industry, accuracy, stick-to-it-iveness, promptness, obedience.

8 *a*) A motive based on ethical principles. *b*) Based on selfish or unjust motives.

9 By an appeal to the physical senses.

10 The habits, customs and manner of life. In the elementary class the skeleton or story of dynasty, etc., will have been learned. It is important to know the customs and habits of life in order to trace motives and the development of ideas.

GRAMMAR

It is useful, also, to be reminded how small a speck of existence we are, and how brief an instant of duration is covered by a human lifetime, or the lifetime of a race. And assuredly, in the presence of such conceptions as those, we may feel a swelling admiration of that spiritual capacity in man which enables him to grasp and comprehend the events of periods past and to come, which stretch out into the realms of eternity. It is a belief ingrained in the texture of the human soul, that a being whose thought thus rises superior to all time and space and change is destined, however brief his corporal sojourn, to outlive in consciousness all the mutations compassed by the horizon of his thought. —ALEXANDER WINCHELL.

1 Select three principal clauses.

2 Select three subordinate clauses, each used differently, and state what each modifies.

3 Give the modifiers of *a*) *instant* (line 2); *b*) *may feel* (line 4); *c*) *mutations* (line 9).

4 Select three infinitives each having a different syntax and give syntax of each.

5 Parse *those* (line 4).

6 Give syntax of *a*) *speck* (line 1); *b*) *sojourn* (lines 8 and 9); *c*) *mutations* (line 9).

7 Select four transitive verbs two of which are in the active voice and two in the passive voice.

ANSWERS

1 It is useful to be reminded. We may feel a swelling admiration. It is a belief ingrained.

2 How small a speck of existence we are, object of *to be reminded*. Which enables him to grasp adjective phrase modifying capacity. A being is destined subject of *is*.

3 *a*) Brief; of duration. *b*) in the presence of. *c*) all.

4 To be reminded, object of useful. To grasp, object of enables. To come, modifies periods.

5 Demonstrative pronoun, third person, plural number, nominative case, subject of *are*, understood.

6 *a*) Noun, third person singular, nominative after are. *b*) noun, third person singular, subject of *may be*, understood. *c*) noun, third person plural, object of to *outlive*.

7 To grasp, to comprehend. To be reminded; is covered.

PHYSICS

1 Define *a*) extension, *b*) impenetrability, *c*) porosity.

2 Name four specific properties of matter that depend upon the cohesion of the molecules of solids.

3 Draw a figure to represent an air pump.

4 State two laws to represent the vibration of strings.

5 Describe an experiment to show that heat expands *a*) solids; *b*) gases.

6 Under what conditions is a substance *a*) colorless, *b*) black?

7 What position will a magnetic needle influenced by the earth alone, assume when it turns freely *a*) in a horizontal plane; *b*) in a vertical plane?

8 State two ways by which electric currents may be produced.

9 With a block and tackle of two movable pulleys and two fixed pulleys, how great a weight will a power of 40 pounds support?

10 *a*) Find the velocity of a falling body after it has fallen five seconds. *b*) How far did it fall during the fifth second?

ANSWERS

1 *a*) Extension is the property by which a body occupies space. *b*) Property by which two portions of matter cannot occupy the same space at the same time. *c*) Property by virtue of which spaces exist between molecules.

2 Inertia, ductility, tenacity, malleability.

3 Personal answer.

4 Vibration numbers vary directly as the square roots of the tensions. They also vary inversely to the lengths, diameters, and square roots of the densities.

5 *a*) A ball that will pass thru a ring when cold cannot be forced thru when heated. *b*) If a bit of mercury is placed in the end of a glass tube when the air within is heated, the mercury will be driven into the tube as the air cools.

6 *a*) When it absorbs no light; *b*) when it reflects no light.

7 *a*) North and south. *b*) Dips in proportion as it nears or recedes from the poles.

8 By discharging a condenser thru a wire. By joining the plates of a voltaic cell.

9 160 pounds.

10 *a*) 160.75 ft. per second. *b*) 144.75 feet.

HISTORY OF EDUCATION

1 What training did Plato advocate for the first seven years of a child's life?

2 *a*) What was the social condition of the Jewish women? *b*) In matters pertaining to education what was the relation of the father to the child?

3 Where did the Persian child get his early education and of what did it consist?

4 In what book does Froebel give his philosophy of education? What is his most popular educational book?

5 *a*) What opinion did Comenius have of the schools he attended? *b*) Name one of his great educational works.

6 Who was Loyola and for what is he famous?

7 For what is the educational world indebted to Herbart?

8 Discuss the work of the Jansenists, or Port Royalists.

9 State the effect of the education of India upon the character of its people.

10 In the feudal ages what was the education of boys designed for knighthood, during the first seven years of life, and under whose direction was it obtained?

ANSWERS

1 Natural sports of children until the age of six, then gymnastics and music.

2 *a*) An exceedingly high position. *b*) Father was usually the teacher. The Talmud commands children to obey the teacher even more than the father.

3 In the common meeting places of the men. To ride, shoot, and tell the truth.

4 "The Education of Man." "Mother Songs and Games."

5 *a*) A very bad one. Said they were the slaughter-house of minds. *b*) Orbis Pictus.

6 Founder of the Jesuits.

7 For his pedagogical ideas.

8 Personal answer.

9 Discouraged ambition and led to a ready acceptance of conditions, so prevented any tendency to change customs or life.

10 Sons of vassals were sent to house of the feudal lord to be trained.

CURRENT TOPICS

1 *a*) Give a brief account of the organization of the republic of Panama. *b*) Show how the United States is interested in that republic.

2 State in general terms the provisions of the Cuban reciprocity bill.

3 Name *a*) four important questions discussed by President Roosevelt in his annual message to Congress, and *b*) state his recommendations in relation to any one of them.

4 *a*) Who is speaker of the house of representatives? *b*) Of what state is he a resident?

5. Write a brief sketch of the life of Herbert Spencer.

6 Name *a*) three men prominently mentioned in connection with the next presidential nomination, and state *b*) to what party each belongs.

7 *a*) What are the "Friar lands"? *b*) What has made them a recent topic of discussion?

8 Show in what way Korea is a cause of international discussion.

9 State a fact of current interest in relation to each of the following: Theodor Mommsen, John R. Proctor, Gen. Leonard Wood, John S. Williams, Henry Clay Trumbull, William H. Taft, "the Mad Mullah," Wos y Gil, Jacob A. Riis. (Answer five only.)

ANSWERS

1 *a*) Panama revolted from Colombia on Nov. 3, 1903. *b*) Has a treaty providing for the purchase and construction of the trans-isthmus canal.

2 Duty on Cuban products into the United States is lower than duties on products from other countries.

3 *a*) Labor question, the Philippines, trusts, Panama. *b*) Recommended the passage of the Panama treaty.

4 Joseph B. Cannon, of Illinois.

5 Born in England in 1820. Educated by private teachers. Became a civil engineer and worked on railroads for several years. Entered upon a military career. In 1850 published "Social Statics." In 1855 "Principles of Psychology" followed, then came his "Synthetic Philosophy." Died Dec. 8, 1903.

Theodore Roosevelt, Republican; Judge Parker and William R. Hearst, Democrats.

7 *a*) Lands in the Philippines owned by Roman Catholic friars. *b*) Purchased by the government for $7,500,000.

8 Japan desires sovereignty there.

9 Mommsen wrote "History of Rome." Proctor, U. S. civil service commissioner. Wood, elected major general. Williams, Democratic leader in the House. Trumbull, editor of *Sunday School Times*. Taft, secretary of war. "Mad Mullah," ruler of Somaliland. Wos y Gil, a prominent revolutionist in Santo Domingo. Riis has written a life of President Roosevelt.

ALGEBRA.

1. (a) A has m dollars, and B has n dollars. A borrows r dollars of B and then has s times B's money. Make an equation showing this condition. (b) Simplify $16-a-\{7a-[8-9a-(3-6x)]\}$.

2. Find the product of $\frac{x^3-y^3}{x^3+y^3} \times \frac{x+y}{x-y} \times \frac{x^2-xy+y^2}{x+xy+y^2}$.

3. Find the value of x in the equation $\frac{x-4}{3} - \frac{214-x}{5} + 3x-12\frac{2}{5}=0$.

4. Find the value of x and y in the equations $ax-by = \frac{a^3-b^3}{ab}$ and $x-y= \frac{a^2-b^2}{ab}$

5. Find the square root of $a^4-4a^2b+2a^2c+4b^2-4bc+c^2$.

6. Find the product of $x^{\frac{1}{2}}y^{-\frac{1}{4}}c^2d^3$ by $xy^2c^{-2}d^{\frac{1}{2}}$.

7. Reduce $\frac{4}{5}\sqrt{\frac{3}{7}}$, $\sqrt{189}$, $\sqrt{\frac{1}{21}}$ to similar radicals.

8. Multiply $5\sqrt{14} + 3\sqrt{5}$ by $7\sqrt{14}$.

9. Find the value of x in the equation $2x^2-3x=209$.

10. Divide the number 48 into two parts so that the excess of one part over 20 may be three times the excess of 20 over the other part.

ANSWERS.

1. (a) $m+r=s(n-r)$. (b) $6x-17a+21$. 2. 1. 3. $x=16$.

4. $y=\frac{b}{a}$; $x=\frac{a}{b}$. 5. a^2-2b+c. 6. $\sqrt[4]{x^6y^7d^{14}}$.

7. $\frac{4}{35}\sqrt{21}$; $3\sqrt{21}$; $\frac{1}{21}\sqrt{21}$. 8 665.56. 9. $x=11$ or $-\frac{19}{2}$. 10. 16 and 32.

EDITORIAL NOTES.

The central pedagogical problem is economy of time and effort, with constant reference to the great objects of education.

As time goes on the truth will be more and more recognized that education has to do largely if not chiefly with the extending and deepening of human relationships. Every day shows new evidences that this duty is being more generally felt and will be understood more fully when the common school ideal has become more visible. The first relationships to impress themselves upon the thoughtful student of the function of the people's schools are those involving the various phases of social intercourse (including domestic relationships) and community life. And here for a time the main emphasis must be placed. The simpler the relationships from which the start is made the more satisfactory will be the result for the student as a basis for more difficult and complicated ones.

In view of these new demands it behooves the teacher to make a careful study of social relationships, especially those that most directly concern himself, his pupils, and the community in which he labors.

The teacher who does not consecrate himself wholly to education is certain to fail, in the large sense of the word. Whatever he wants his pupils to be, he must be himself. If he does not study his business, if he does not toil for a better knowledge of teaching day by day, his pupils will not be interested in their school work, and he must fail. Children are quick to perceive whether the teacher's heart is in his work or not. To read, study, and meditate upon education and to search for the best ideas and most improved plans and methods of teaching, is the road to success in teaching.

The great shoal of danger in education is arrested development, physical, mental, and moral. More mischief in educational result is traceable to the teacher's disregard of this matter than to any other one cause. Precocity and superficiality are next in kin to arrested development. These phases of danger must be carefully studied by those who wish to be successful teachers. They cannot be made too important.

Every effort should be made to hold all the children of a community in school as long as possible. If the school programs do not suit the people, make them reasonable and attractive and then prove their value. Parents are only too eager to give to their children the best that is to be had. They regard their little ones as their own ideal selves in whom they would fain see realized their own highest ambitions. If they can be shown that the common schools are truly the most efficient and most desirable places for their children to attend, they will not withhold their parental support. But school people have not yet realized to the fullest extent the logic of the meaning contained in the name "Common" schools. The common schools belong to the people, to all the people, particularly the parents, to help them achieve thru them their highest intellectual and moral objects in life.

Social Work in the Schools.

Dr. Henry S. Curtis, who has done some excellent work in the development of the social phases of school life desires to gather information concerning the following questions. Teachers who are willing to help in the work are requested to give narrative pictures of their experience with as many of the topics as appeal to them. The sex and approximate age of pupils and teacher should be stated in each case, also the locality in which the observation was made.

1.—If you have ever done any personal work in connection with your teaching, which put you in more sympathetic relations with your pupils, such as: taking walks, going on nature study or other excursions, playing games, visiting, organizing societies or clubs, etc., will you kindly give an account of what you did, and what the results were (a) upon individuals, (b) upon the spirit of the class, and (c) upon school discipline?

2. Will you give an account of one or two cases of discipline either suffered, inflicted, or observed by you that led to a more personal relation between teacher and pupil with permanent improvement on the part of the pupil?

3. Have you ever seen any great improvement on the part of a class follow instruction about personal habits, such as, combing hair, blacking shoes, taking baths, etc.? What was the method of the teacher?

4. Have you ever used or seen employed, any practical method of becoming acquainted with parents and the home life of the child? If you have, will you please describe it and its results?

5. Relate any experience of yours which led you to take an interest in a child who had not interested you before.

6. If you have ever used or seen used any means of creating loyalty to the teacher and the other members of the class either by competitions with the others, by co-operation in some common enterprise, or by any other means that emphasized common interests, will you please describe it ?

7. What sort of a relation do you consider most healthful between pupil and teacher? Does the reserved, stern, yet kind teacher, or the lenient, companionable one, have the more lasting influence for good?

8. Will you give an account of any case you know where a boy or girl was inspired to higher action by reading or hearing of the life of a great man or woman? Can you give any reason for this influence?

9. Have you ever taught ethics to children, either thru a textbook, by talks, or thru literature or history? What did you do? What is your feeling as to the result?

Those who wish to assist in working out this very interesting and useful line of study may address their answers to Dr. Henry S. Curtis, 507 W. 124th street, New York city.

Partial List of Articles Planned for the June Number of "Educational Foundations."

Graduation and Promotion of Pupils.
C. B. Gilbert.

Rights of the People in Common School Affairs.
Andrew S. Draper.

Distinction between Work and Play.
H. L. Withers.

Cautions with Reference to Early School Education.
E. B. Bryan, Maria E. Findlay, Maria Edgeworth, and others.

Scope of a School Principal's Functions under Average Conditions.—W. E. Chancellor.

Feeling as a Factor in School Training.
J. L. Paton.

Review Questions.

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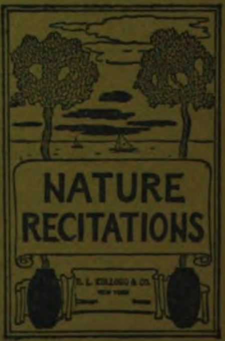

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Contents for June, 1904

Who has Ceased to Grow - - - - - 713
Harsh Supervision - - - - - 713
Common School Extension - - - 777
America's Faith in Education - - - 782
Feeling as a Factor in School Training 715a
Gradation and Promotion. C. B. Gilbert 718
The People and School Affairs. Andrew S. Draper - -- - - - - - 727

THEORY AND PRACTICE OF TEACHING

Distinction Between Work and Play. 735
How to be Interesting. John Adams - 746
Moral and Religious Training. M. G. Clark 760

CHILD STUDY

Books of My Childhood. Isabel C. Forrey 752

HISTORY OF EDUCATION.

Philanthropinism. Francis Wayland Parker 762
Selections from Maria Edgeworth - - 763

CLASSIC ANTIQUITY

Greek Mythology and Religion. - 765
TEACHERS' EXAMINATIONS 770

The title page and index to volume XV will be found between pages 780 and 781. After removing the staples by which the pages are held together, this part may be removed without difficulty and placed at the beginning of the volume. Please call the attention of the binder to this note.

EDUCATIONAL FOUNDATIONS

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Educational Foundations

OSSIAN H. LANG, Editor.

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Who Has Ceased to Grow.

The most dangerous state of mind to be in for an otherwise moral human being is self-satisfaction. It is the beginning of the end of one's growth. And when growth ceases shrinkage of life becomes inevitable. Socrates saw the danger. That is why he gave his whole life to awakening others to a knowledge of their own imperfections. A teacher who falls into the snares of assurance and self-satisfaction will soon lose his usefulness. How can the pupils be inspired to a pursuit of knowledge and beauty if the teacher is not an example of continuous and earnest self-improvement. When the teacher reaches the point where he believes to have completed the circle of his perfection he should be relieved of his office. No greater wrong can be inflicted upon a school than a teacher who has ceased to grow. Such a teacher lacks the chief quality which should distinguish a human being from the dumb beast. Self-improvement should be made an absolute condition for continuance in school work. And let it not be forgotten that this applies to the teacher with even more positive force than to the pupil.

Harsh Supervision.

Supervisory officers are supposed to be the most sympathetic and helpful persons in a school system. They are expected to encourage good teaching and to labor for harmonious co-operation of the teachers with their principals and of one school with another. They are paid a salary to do this. But now and then we meet among them one who unable to grasp the largeness of his office goes about spreading discouragement and discontent and heartache. Many a teacher retires to her room after school hours to bathe her pillow in tears because of the visit of a supervisor.

Cockatrices and bullies should be forever banished from any and every connection with school work. In the same class with them belong the small, vindictive people who because of personal dislike of a teacher or a supposed affront from him, seek revenge in their own small way commensurate with their caliber, by annoying and harassing the "subject."

We have talked much of unfit teachers, the unfit supervising officers are doing far greater harm than they. Let the unfit be stricken from the roll.

John Amos Comenius,
the good old Moravian Bishop, who laid the foundations of systematic pedagogy. (1592-1670).

Copperplate by J. Balzer, Painting by J. Kleinhard, 1772.

John Henry Pestalozzi,
the great Swiss teacher, who is the father of the modern elementary school.

Copperplate by H. Lips, after a painting by M. Diogg.

The Two Grandmasters of the Teachers' Profession.

Feeling as a Factor in School Training.*

HOW fatal is the mistake of ignoring the feelings in education, and how tragic are the consequences of so doing, is shown in fiction by "The Ordeal of Richard Feverel," and in real life by the autobiography of John Stuart Mill. George Meredith's novel is highly prized by all interested in education. The resultant impression of that book, to my mind, is that no amount of cleverness in the teacher and no amount of excellence in system or curriculum is of any avail if one leaves out of account the natural propensities, feelings, and desires of the child whom we educate. Training is like a game of dominoes — it is no good having the best of pieces in one's hand, however high they may be; unless one can fit them in with the pieces played by one's adversary, one loses the game. I commend "The Ordeal of Richard Feverel" to any one who does not know it as a most helpful piece of educational thinking. As to John S. Mill, every one knows the story of his early training — how splendidly it answered as a training in intellectual gymnastics and the accumulation of knowledge, how utterly it ignored both his hands and his feelings, and how prolonged and turbid and painful was the reaction of outraged nature.

The old philosophy of education kept its eye on knowledge — such and such knowledge was to be inculcated, such and such instruments of knowledge were to be mastered. The matter of teaching, the system of the teaching, was the same for all. It was simple — delightfully simple — but it was wrong. One kind of feelings this school did take into its cognizance — the bodily feelings. "Blessed are the pure in heart," said Dr. Keate. "Be pure in heart, boys. If you aren't pure in heart, I'll flog you." Such was the old school. And there was no advance in educational science until another school arose, who said: "We are beginning at the wrong end. We have been planning out education for children in the same way as the French government makes clothes for its soldiers. First they make the suit; then they fit the man to the suit. We have got hold of the wrong end of the stick. Before we make the suit of clothes, we must take the measure of the child that is to wear them. The first thing to study is the growing organism that we have to develop — we must find out its latent powers, the laws of its growth, and its instinctive tendencies; observe the lines along which these tendencies develop, and take them as our rule in the planning out of our methods." This is what Pestalozzi (following Fichte) called *Der*

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* Partial report of an address before the London College of Preceptors.

Prozessgang der Natur in der Entwickelung des Menschengeschlechts. This was the secret of what has been called his "gift of divination, his luminous guesswork." The discovery was the outcome of his experience. His experience was not, of course, unique; but the reason why Pestalozzi saw the lesson of his experience, while others who had the same experience did not see, was due precisely to the intense sympathy of his nature; he was "full of sensibility," and therefore he had eyes to see.

Now I think, if Pestalozzi could see to-day the results in European and American education of the new truth which he discovered, he would have no reason to be discouraged. Those results are most apparent perhaps in primary education. Consider the difference between the modern kindergarten and the old elementary school. Contrast the freedom, sociableness, and spontaneous joyousness of the present infant class with what Edward Thring tells us of his own preparatory school, where all talking at meals was forbidden; and young Edward Thring himself was flogged for "a very little laugh at dinner." "All my life long," he says, "the evil of that place has been on me. It is even now one of my strongest impressions, with its misery, the misery of a clipped hedge, with every clip thru flesh and blood and fresh young feelings; its snatches of joy, its painful but honest work — grim, but grimly in earnest — and its prison morality of discipline. The most lasting lesson of my life was the failure of suspicion and severity *to get inside* the boy world, however much it troubled our outsides."

Let that stand for evidence which might be multiplied indefinitely. Such things as this are dealt with nowadays by a special society, and the policeman, the family butcher, the family milkman, the family washerwoman, and the grocer's boy, all combine to bring such occurrences to the notice of the society, and protect child life from such inhumanity.

The results of the new theory of education are, as I have said, most easily seen in primary education. The results in secondary education have been slower in maturing; they are not nearly so universal, they are less easily discerned, but I believe they are every bit as real. Within my own time there has been a wonderful change in the relations between masters and boys. I don't think the credit can be ascribed to any one personality or any one school — it has been in the air, it has been everywhere silently operative, but it seems to me so important that the word "change" is too weak, and perhaps the proper word for me to use would be "revolution." In what does this silent revolution consist, and how has it come? It consists in the closeness and freedom of the personal intercourse between master and pupil.

Thirty or forty years ago the masters lived apart from the boys. The master was what a master still is in Continental schools — an officer — and the boys were the rank and file. The idea of a master corresponding with a boy was unheard of. If a command was given, he no more dreamed of saying "please" than the officer on parade thinks of saying, "Right turn, gentlemen, if you please," or "Kindly turn to the front." The relationship is very different now. I remember when I went to Rugby as a master being surprised at the quite informal way in which boys and masters foregathered out of school hours, how after evening preparation one would drop in to a study to give back a composition, or even without any such pretext, just for a bit of a chat, and not infrequently also for a bit of cake, without there being the slightest suspicion on the part of the boys that you were an intruder, or the slightest feeling on the part of the master that he was unwelcome or *de trop*.

What this change has accomplished it is not for me to estimate. I will just notice on the negative side that it has abolished in English public schools, first of all, bullying, and, secondly, those coarse vices of self-indulgence and drinking which figure so largely in Dr. Arnold's sermons. J. L. Paton.

John Bernard Basedow,
the great German school reformer of the eighteenth century (1723-1790), whose pioneer labors paved the way for the modern secular school.
Copperplate by D. Chodowiecki.

SCHOOL ADMINISTRATION.*

Gradation and Promotion of Pupils.

IN every school system it is necessary to have some definite plan by which pupils may be properly classified and may be advanced from grade to grade according to their needs; it is necessary both on educational and on economic grounds. For economy's sake the pupils must be properly distributed so that each teacher shall have a suitable number of pupils — that is, so that the classes shall be kept reasonably full. On educational grounds the pupils must move along as rapidly as their growth demands, and must be associated with those of similar attainments.

Upon what principle, or principles, should the rules regulating the promotion of pupils depend? There has been, and still is, a very wide variance of custom in regard to this matter in schools. There has been, moreover, a great change in general sentiment, and also in the prevailing custom within the past few years. The almost universal plan that came in with the systematizing of schools was promotion by examination alone. At stated times pupils were all submitted to a formal examination on questions prepared by some one in authority, and they stood or fell according to the results of these examinations.

In the first public high school of considerable size that I took charge of as principal I found this custom prevailing, and continued it until I learned better: The last week of each school month was given up to review and written examination — that is, one-fourth of all the time was so employed. As I remember, two or three days were spent in oral review and the remaining days in written examinations. These were rigid and mechanical in the extreme, and at the end of the year, or upon the completion of a subject, another examination was given and an average was struck, which determined absolutely and without any other consideration whether the pupils were to be promoted or not. I have no doubt that the principal who inaugurated this plan in this particular school, and who is now one of the most distinguished educational men in the country, has often laughed at his precision. But customs scarcely less harmful prevail now in spots.

The examination fetish still has its worshipers. I have in this series of articles frequently referred without adulation to the late Board of Regents in the state of New York. They were, until recently deprived of their power, among the last bodies in the country to continue in rapturous adoration on their knees before this particular calf, and the schools of the state have suffered more than can be told by the rigid, mechanical, narrow teaching resulting from the influence of the Regents' examinations. So far as I know, there are now comparatively few school systems in which reliance is placed wholly upon examination in determining the promotion of pupils.

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THE RATIONALIA OF EXAMINATIONS.

Notwithstanding the general loss of respect for examinations as determining promotion, perhaps I should explain my position upon that subject to avoid misunderstanding. I believe emphatically and fully in examinations. It would be difficult to conduct a scheme of education, whether for an individual or for a million individuals gathered into a system, which did not provide for examinations.

Examination is a partial test of both knowledge and power. No examination can fully test either knowledge or power. As to the former, at most it can determine whether certain specific facts have been acquired. It cannot determine how much is known or how much is not known, so it is bound to be limited to the strictly conventional or to the specific things that are known to have been taught, and yet in those elementary phases of knowledge which are represented in all educational institutions there are certain fundamental and characteristic data which all should know who assume to have any knowledge of the subjects whatever, and a knowledge of these can, to a limited degree, be tested by an examination. But it must always be borne in mind in all examinations that all the examination shows is whether the specific questions asked have been correctly answered, and not whether a question equally important might or might not have been answered.

As to power: An examination may determine the ability of the student to do certain specific and technical things. The field of activity is necessarily of the most limited sort, and very little can be ascertained as to the ability of the student to do those things that it is most important in life he should be able to do, and so we have the long line of great men whose college records, as determined by examinations, were most unsatisfactory, largely because the tests applied did not determine the more important questions as to their knowledge or power.

And yet, as I have said, all schools must have examinations.

Their chief value, however, is to the student and not to the teacher. They do not to any very great degree indicate to the broad-minded and wise teacher any facts about the students which he has not already in his possession, but they often do open the eyes of the student to his own state to an extraordinary degree. It is a very good thing for us to be put up against ourselves and find out thru a bitter experience how much or how little we know and can do. So I would have examinations frequently, in which the questions asked cover a wide range. I would have easy examinations to see how much the student can tell about his specific subject broadly stated. I would have narrow and technical examinations to see how little they know about certain phases of subjects. I would have examinations so difficult that only the best can pass them, but I would not base the promotion of any child upon these examinations. I would use them solely for metaphysical and educational ends. Their only use in determining the right of the student to promotion should be their indirect effect upon the minds of those who must determine the question of promotion; they are among the lights shed upon the case, not by any means always the most valuable.

WHAT SHALL DETERMINE PROMOTION?

Another very important method of determining the question of promotion is that of the daily marking of the recitation. This is sometimes used independently and sometimes in connection with the examination. Of the two it is by far the more deadly. Much better an examination coming at times with carefully prepared questions than the fatal pencil suspended over the equally fatal note-book while the student is trying to say something that shall secure a good mark. With the deadly marking system it is practically impossible for teachers to teach well or students to recite well, because both imply freedom, and neither teacher nor pupil can be free under this system. If the student is to be marked upon his answers to questions, of course the questions must be strictly categorical and capable of being answered correctly by him. The teacher may not stimulate thought and appeal to the imagination by asking questions outside the narrow field of the text-book, because if he does the student will be unable to answer them and must receive, consequently, a bad mark, and the students themselves will hold the teachers most rigidly to the categorical question under these conditions. Nor can the student indulge in any flights of imagination or investigation or ask questions betraying curiosity or ignorance. He must know his questions and answers in order to get his marks. By combining the two, the daily marking of the recitation with the formal examination at regular intervals, you have a combination of the two worst conceivable methods, — two negatives that make a positive evil.

What, then, is the best test? First, let us answer another question. What is the motive of promotion? It has but one, — placing the students in the class where they can do the work that it is best for them to do. There should be no element of punishment or reward in the promotion of students, — nothing absolutely but a common sense assignment to the best place for work. It is very easy for teachers to be governed in their judgment and their markings by the conventional or unconventional conduct of the pupil, by personal behavior or personal characteristics, and I have frequently known teachers to refuse to promote pupils because "they did not deserve it," that is, because they had been offensive or disagreeable, or disorderly, or had not studied as hard as the teacher thought they should have studied. Such considerations have nothing to do with the case and cannot be introduced without injury. Is John or Susan better fitted to do the work of grade one or of grade two? is the only question. The time of a child's education is limited, and to keep a boy or a girl back a half year or a year for any reason other than his own personal good is to commit a serious offense against him. To push him ahead, on the other hand, into places where he becomes lost and discouraged and is unable to do his best work, is equally an offense.

Now to refer to the original question, "What is the proper test for promotion?" there is only one answer to it, — the fitness of the pupil for promotion is a matter of judgment to be determined by those who are in position to know, using all the data available. Any teacher, after he has been associated with a child for a term of a half-year or a year, listening to his recitations and daily inspecting his work in the various subjects, knows whether that child is qualified to go ahead and do the work of the grade beyond or not. His judgment should be strengthened by all kinds of natural and artificial memory,— by records of the various things that have been done by the student during the term which indicate the possession of sufficient knowledge or power to do the work of the grade beyond, or the contrary. But there are many other considerations than those involved in these various records, — questions of temperament, of industry, of home environment, of health, of age, of maturity of thought. These questions and many more should be considered in determining the fitness of the student for any particular position. Some students will do better under a spur, such as is given by work a little beyond them, but others will be discouraged by such stimulation and will do better when the work appears light.

All that is needed in determining whether students shall be promoted or not is the application of common sense judgment. Formal and mechanical tests are dangerous. The various means employed for educational ends, such as oral and written tests or examinations, reviews, should all be employed as shedding light upon the situation, but the final question should be a matter of judgment as the mind has been affected by all these various influences. It should not be even a matter of averages. Figures, whether taken singly or in averages, are dangerous as applied to the needs and the laws of growth of the human mind. One thing should be borne in mind always, and I fear that it needs constant reiteration, — no consideration for the system as such should enter into the question of the promotion of pupils. The system is important and must be preserved, but promotion is an individual matter, and a single child whose case is under consideration is entitled to a judgment according to his needs, not according to the needs of his neighbors or of the system as a whole. The system that cannot stand the shock of proper consideration for individuals is an unworthy system. It should make no difference whether the student is ready for promotion at the middle of the term or the beginning of the term; he should be promoted whenever he is ready. It also should make no difference whether he is the only one in the class to be promoted or the only one not to be promoted; his individual good should be the only consideration in every case, and every other consideration which interferes with this should be sacrificed to it, even if some classes are unduly large and others unduly small. In such cases the remedy can easily be found in a new division of classes.

In this connection I am moved to say that it is better to have regular promotions frequently than to have them infrequently. Thru all grades the regular class promotions should occur not less frequently than semi-annually, and in the primary grades they should occur more often, as three or four times a year. From this it is evident that the regular class promotions are perfectly proper and should be maintained. While the individual should receive all the consideration he needs, the exceptional individual is the one who most urgently demands care. Probably three-fourths of the children in every class will move along with sufficient uniformity to justify class promotions at regular intervals; possibly 90 per cent. in many classes. It is the remaining tenth that is in danger of being submerged and lost.

PROMOTION DEVICES.

This subject has been much agitated of late years, and most of the leading thinkers upon educational subjects, including the leading superintendents, are opposed to the rigid classification of pupils, altho unfortunattely this is found in practice often where it has been discouraged in theory. As a result of the agitation of the subject many people have come forward with nostrums for remedying the evil, some of which have been widely heralded. Some of these are simply mechanical devices for doing away with the admitted evil. Others are based upon a new philosophy of education and are radical and fundamental attempts to substitute extreme individualism for the social school, while still others provide machinery for affording to individual children new crutches in the form of advisory teachers, so that the weak may limp along faster and keep up with the more active. Most of these nostrums are composed of simples, some good and some bad, — that is, practically no one of the patent methods for removing the evils of rigid classification is without merit,but so far as I have been able to examine them they are all defective in that they are superficial and based upon a partial view of the educational field and exaggerate certain features.

One very much advertised method makes so much of mechanical provisions for promoting individual students that it quite ignores the weightier educational questions involved and tends to inferior teaching, because the question of promotion is made the great question rather than a corollary. Another method, and also much heralded some years since, tho now not so frequently heard of, is attractive in many ways, but based upon a dangerous philosophy, viz.: that the individual is to be educated without regard to his neighbors, which ignores the most valuable feature of education. Any system which attempts to do away with class recitation and to substitute individual work is a return, practically, to the unfortunate private tutor notion, and disregards the very valuable training which comes from co-operation and competition in the class.

In regard to the third mentioned, — the furnishing of external individual help for students, — there is extreme danger that the help so provided will weaken rather than strengthen the individual power of children; that self-reliance will be practically destroyed, and while apparently rapid progress is made through certain elementary grades, it is too much like the stuffing for examination, of which all disapprove. Hence it seems necessary to regard all special methods as dangerous. Nothing can take the place of education itself, which is growth.

Many nostrums have been advocated for the training of this or that mental power, and for the securing of some really admirable educational end, but each has ultimately either taken its place as one of the many departments of the general educational scheme, or has fallen into innocuous desuetude. So I reiterate that the only thing needed in determining the promotion of pupils in all grades is common sense judgment, of course resting upon a rigid spinal column, and the sooner we can sweep away all diverting accessories, the sooner will the children receive their due.

A RATIONAL SCHEME.

Notwithstanding all this, it is not safe to leave the promotion of children in a school system to chance. A plan must be carefully formulated by the superintendent and promulgated so that there may be uniformity of thought and method, tho not uniformity of promotion. I beg to offer here a scheme which has worked well in some places, which might not work well in others, but which may at least be suggestive to the studious:

> In all grades, from the fourth to the twelfth, inclusive, at the end of each week teachers shall prepare, on blanks furnished for the purpose, an estimate of the work of each student during the week. These estimates shall represent the judgment of the teachers upon the ability and industry displayed by the pupils in the various subjects pursued. They shall be recorded by the use of the letters A and B. A, being the passing mark; B, indicating failure.
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> At frequent intervals, brief examinations or written reviews of various sorts shall be given the pupils in their respective classes, and a record of the results obtained in each case shall be kept by the teachers. Questions for at least one examination in each semester shall be furnished or specially authorized by the superintendent of schools. The results of these examinations shall not be the basis for promotion, but shall be used and considered by the teacher as a guide and critique for his own work, and as one means for determining the character of the work of the students.
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> At the end of each month a report shall be sent to the parent or guardian of every pupil, giving the results of the weekly estimates taken from the teacher's record modified by the results of any written tests given during the month. Each of these reports, signed by the parent or guardian, shall be returned to the teacher.
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> At the end of each semester, the teacher and principal

> together shall examine the record of each pupil, both as to weekly estimates and tests or examinations given during the term, taking into consideration all circumstances so far as known, affecting the work of the pupil.
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> All pupils whose work has been found upon the whole satisfactory and all who have given evidence that they are qualified to do the work of the succeeding grade, shall be promoted. Those whose work has been found to be in the main unsatisfactory and those who have not given satisfactory evidence of ability to do the work of the succeeding grade, shall not be promoted, provided that in the case of exceptional pupils, conditional promotions for a definite time may be made.

This is taken from rules already in force. It will be observed that there are regular markings by teachers, but not daily, and these markings are not technical nor in figures; they are simply occasional records of the general work done by the pupils to serve as aids to the memory. A record is also kept of all tests and written reviews, these, too, as aids to the memory. No one of them, nor all of them together, can be used technically and formally to determine promotion; they are all kept simply as aids to memory, nor are they averaged. The average is a most dangerous device in this connection. Sometimes a poor record during the first part of the year may bring the average down to a point below passing, when good work done the latter part of the year may indicate a state of mind entirely fit for promotion, and the reverse might be true. The only object of the records is to prevent snap judgments upon the most recent effort of the student, be it good or bad.

The number of marks used is also important. My own judgment is that there should be but two marks used, — one to indicate work of sufficiently good character to make it seem evident that the student ought to go ahead, and the other to indicate the opposite. Fine gradations are most difficult to make; they are a trial to the teacher, who never can make them accurately, and they are dangerous for the students. It is not necessary for the students to be ranked in comparison with one another by the teachers. They will draw their own conclusions surely enough, and they need no artificial help to priggishness or to discouragement or bravado.

There is a further danger in the use of marks which indicate exceptional merit or exceptional demerit. Students come to rely upon marks and to work for marks. Teachers sometimes fear that if special excellence is not recognized students will not work as well, which is of itself a confession that the student's studying is from a wrong motive. Suppose students do work a little harder to get a mark, that work does not have upon them the right effect; it does not make them better students; it does not cultivate the habit of study; it does not even cultivate a love for study. On the contrary, it acts to divert the mind from these very desirable ends. The child comes to think of this good mark rather than of the work itself. I would rather have good, average work based upon interest, than what the teacher might mark as superior work, resting back upon the desire for a mark. The former I should expect to see followed by good, average work later. The latter is very likely to be followed by a complete drop when removed.

Moreover, the reliance upon marks is most dangerous morally; it tends to take the mind away from the real ends of life and turn them to inferior ends. It is impossible for us to conceive to how large an extent the prevailing low standards of life, the love for money and of secondary ends, is due to the sort of standards that have prevailed in our schools, and the stimuli presented to our young people while getting their education. How can we expect the boy or girl who has been urged all thru his school days to work for a mark, or a prize, or to avoid a punishment — that is, for some secondary end, when he comes out into life to immediately grasp the values of life and work for primary ends? Is it not the most natural thing that he should work for money, place or something else which is secondary? The habit is formed in school and it simply accents the worst in our American life, and no amount of preaching afterward can prevail to break this habit. It seems to me that this reason alone is sufficient to deter us from offering any secondary inducements whatever to young people who are going thru school.

From the above it must be evident that in my judgment the fuss made over the promotion of students is entirely unwarranted by facts; that there is no need of great agitation or of upheaval, but simply the application of the same sort of common sense that is applied to any successful business enterprise, and further, that we need to get all of our school work away from the degrading influence of vulgar competition with which our whole social and business life is infected. C. B. GILBERT.

The fifteenth volume of EDUCATIONAL FOUNDATIONS closes with the present number. There will be no issues in July and August. With September begins the sixteenth series. Mr. Gilbert will continue his very valuable discussion of the practical problems of school administration. Other interesting features have been planned. A tentative outline of the year's work will be found in the editorial pages.

Rights of the People in School Affairs.*

THE public point of view is too often overlooked by the men and women of the schools. The most cherished desire in a parent's heart is that his children may be better educated than he was. For this no sacrifices are too heavy for him. To this end he will labor with music in his soul and find abundant recompense in the intellectual progress of his household. But sometimes he wonders. He hears much of modern educational theories and of surprising methods in the schools. He is made to know that of the making of school-books there is no end. He is by no means an ignorant man; he has read and worked, and such men know some things. But he hears things thru his children that he never heard of before. He must not doubt the superior knowledge of the schools, however, and he puts away his incredulity. By and by something happens which makes it necessary for him to see the teacher, and then he finds himself in contact with a force which is of the utmost moment to him, but which is indifferent to his rights or powerless to assure them.

A mother of refinement sends her children to the public schools. The family circumstances hardly warrant sending them to private schools, and beyond that she has some patriotic sentiment about the matter. She wants to believe in the public schools and support them. She, moreover, wants to be on terms with the teacher of her children to the end that she may give commendation and support where it is due, and that they may work understandingly together. To her surprise she finds a woman far below her standards of womanly sympathy, tact, and culture. She cannot subject her girls to such an influence and such teaching as that. But what is she to do? If she seeks remedy she is more than likely to find that there is none.

It has often seemed to me that there is no sort of a civic or political organization in this country so fortified against the enforcement of a citizen's right as a school organization which has grown to large proportions on the old lines and has not yet been brought to terms of centralized authority and responsibility. You may start out to redress a wrong which is wearing your life at its best parts. It is not a question of public policy, but of an individual citizen's right. You commence with the teacher; she refers you to the principal; he advises you to see the supervisor; that official passes you along to the superintendent; he would likely aid you if he could, but he knows very well he cannot, and suggests that you carry the matter to a trustee or a committee; and there you are told that it is a matter for the whole board, and the board is utterly beyond you. If the truth were told, you are thwarted, your rights are denied by reason of political or personal influence, which is not only ignorant and selfish, but resentful and spiteful. Anyone in official position who opposes it is likely to feel its fang. And the whole thing is so arranged that no one dare help you; no one has the authority to help you; and no one who refuses you justice in a just cause can be called to account for it.

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* Part of an address delivered by Dr. Draper last year at Philadelphia.

It is not implied that the men and women along this official line you have traveled are all vicious. There is wickedness somewhere in the business, but these people would, for the most part, be glad to be released from it. The trouble is in the fact that the system is more irresponsible and vicious than the people are who administer it. It is hospitable to flagrant and insidious evils which no power short of the legislative power of the state, or the aroused and indignant political power of a community can drive out.

Our fathers were more accustomed than we are to call the schools "the common schools." It was a good term; it grew out of a fact, and it implied much. It would be well to go back to the name and give new emphasis to the fact. If the schools are to become the schools of the poor who can afford no other, if they are to become the schools of the unfortunate who do not know their rights or cannot assert them, if they are to irritate the well-to-do, who must support them without direct benefits, if they are to make for the segregation of classes rather than serve as a bond of union between all citizens, then a unique and cherished ideal of our democratic life is being overthrown, and an evil day is coming upon us.

We will not believe it. Our democracy has harder problems than in the days of our fathers, but we understand those problems more clearly and are better able to meet them than they. The shaping and the management of institutions by the people must encounter some difficulties that would never appear to a minister or a cabinet, but in the end it is better. The popular will is slower than the will of one man in acting, but when it does act it is more forceful, more steadfast, more pervasive. The exercise of the democratic principle is educative in itself. The mass slowly, steadily, rises to the enforcement of principles which it accepts. Democracy learns to do by doing.

Educational equality, schools common to all, at whatever pains and at whatever cost, is a doctrine universally accepted in America. The people will make that doctrine a living fact in our democratic life. It is being put to its severest test in the great cities where such vast amounts are involved and greed is so rampant, where so many teachers are required and the children are so unlike, but even those cities are rising to their great task, and they will be no exception to the universal rule.

New and higher standards are appearing in the school systems of our largest cities. Look upon the stately and healthful buildings of the newer type, good enough for the very best, and therefore good enough for all. The City of New York has not always been in a position to claim commendation for the situation and the work of its schools, but that city has in recent years made a notable contribution to the architecture, the hygiene, and the decoration of the large city school-house. And I would not imply that that is the measure of its contribution. There is abundant reason to believe that its early contribution, under a capable and free superintendent, to the organization and the administration of the schools will be no less notable. What is possible there is quite possible in any other American city.

But it is possible only thru an understanding by the citizen of what he ought to expect and what his rights are in the schools, and then thru agitation and combination which will secure needed legislation and an organization which will make those things possible.

WHAT TO DEMAND.

Every citizen is bound to demand that within easy reach of his door there shall be a school building which is substantial, attractive, and healthful. He has the right to expect that in that building there shall be a corps of teachers of capacity and culture, with teaching power and quick interest in his child. Refinement, truth, strength, industry and patriotism must all grow under that roof. He has the right to expect that that building and those teachers shall be free from partisan or sectarian influence, and that all that is done there shall bind all good citizens together in a patriotic league and make for the intellectual and ethical quickening of society. If in any particular it is not so, he has the right to know just where he may go to an experienced and capable officer, with ample authority, responsible to nobody but the community he serves, the law which sustains him, and the intelligence and conscience which guide him, and have immediate attention to his complaint and quick redress, if his complaint be a reasonable one.

HOW TO GET IT.

If this is not already so, it is to be brought about thru direct appeals to the people until the common sentiment is quickened to a revolt, and then thru a school organization which differentiates legislative and executive functions, which gives business matters to business men, and instructional matters to teachers, which centralizes authority and responsibility for doing things in individuals, and is amply protected against influence.

We have less confidence in the crowd than we ought. The men and women who have descended from the earlier American families are not the only ones who are interested in the American schools. Nor are the men and women who live in costly houses the only ones interested in the schools by any means. It often happens that one of the new families has a keener appreciation of school privileges than one of the old families, and that the strongest supporters of the school system are the men who live in moderate circumstances. Sectarianism cannot come into the schools, but there is no reason why the interests of the schools shall not be carried to the religious denominations. A public school talk at a Presbyterian club, or a Methodist league, or a Roman Catholic lyceum is often welcome and always counts. A discussion of the true interests of the common schools before a labor union always develops a quick interest and often an aggressive response. Gatherings of the people in the school-houses germinate public school enthusiasm and strengthen the foundations of the school system. You may often see things which make you doubt, but there is virtue and honest desire among the people, and if you agitate the mass, the good and true will come to the surface, and if you gather and direct it, it will bear down the combined forces of evil.

There is to be no politics in the schools, but the interests of the schools must often go into assemblages where politics is rampant. The schools are very commonly administered by men and women who are in official position as the result of political action and partisan choice. It often happens that these people do things which they would not do if they were free. Public sentiment must set up standards and create an organization which will not only free them but punish them if they put the law on sale or make plunder of sacred rights.

I am a partisan. I believe in politics. I know the need of organization. But if the men who make such boast of party loyalty without being as true as I am to principles for which the party stands, if the men who give their days and nights to managing " the organization " and seem to think that party machinery is to be supported by plundering the whole people, do not take their hands off the public schools and help on legislation which will give the common schools their best opportunity, I would take all the chances of throwing my vote and of bearing a hand at politics in a way which they would be very quick to understand. A small measure of manhood independence, a reasonable exercise of a freeman's right has a surprising effect in the back room of a political machine.

LINES OF ACTION.

But no matter how much sentiment may be aroused, it must act upon rational lines. A few men of good standing who have thought things out to a conclusion and can marshall the facts and the reasons in ways which appeal to public sentiment, and who know how to enable public sentiment to have its way are of more moment, in the educational affairs of a great city, than thousands of indignant and unorganized men who do not know just what they want and do not see how to get something which will be of advantage to them.

PRINCIPLES TO BE UPHELD.

It may be said with conservatism that the following principles must be asserted, must be enforcable by law before the educational rights of the people can have any promise of being satisfied:

1. The Board of Education must be small in numbers and the members must not be chosen by or for a district of the city, but must represent all the people and every educational interest of the city.

2. There must be a complete separation of legislative and executive functions. The board must have legislative powers only. Its functions should be discharged by passing resolutions to be entered in full upon its published journal. It must have no appointments, at least it must not have the initiative concerning any appointments beyond its clerk and the heads of business and instructional departments.

3. The actual doing of things must be left to executive officers. At least two executive departments are necessary, one to manage the business affairs and the other the instruction. The two must be sharply separated. These two departments must each have a strong and experienced man at its head, and he must have free and ample powers and must be held responsible.

4. The head of the business department must be charged with the appointment of all clerks, janitors, and employees, with the care of all property and with the making and execution of all contracts. He should have nothing to do with passing resolutions and the board nothing to do with executing them. His term of office should be a long one and the law should amply protect him. He should get his directions from the law and the

resolutions, and he should never be able to plead that he lacked authority or means to execute the high functions of his office. He should be directed by law to make all his appointments wholly irrespective of political official or other influence and wholly upon business principles. His appointments should be for an indefinite time. For any acts or any neglects which violate his directions he should be removable by the three-fourths vote of the board and punishable by the courts.

5. The Superintendent of Instruction should be chosen for his learning, his special knowledge of good pedagogy, his intellectual forcefulness, his steadiness, his rational outlook and sense of justice, his good nature and stout backbone, his experience in administration, his gifts for construction and his ability to make himself the best representative and exponent of common school interests of a cosmopolitan community. Few men meet these specifications; but there are some who do. The man who comes nearest to it and who is available should be found, and the conditions should be fixed so as to bring him to the high opportunity and the great service. The fact that he was not so fortunate as to have been born or to have lived in the city of Philadelphia or the State of Pennsylvania should not be an insurmountable obstacle to his appointment.

6. The Superintendent of Instruction must have his status fixed by law and not left to the caprice of a board. Up to this time he has been left almost wholly without legal protection against conditions which must wear his life to the breaking point and surely overwhelm him if his physical or official life lasted until the situation grew large enough. He must have a definite and long tenure of office with free powers and full accountability. The members of the board must know that they are not expected to have his expert knowledge or wide experience, and that they are not to appoint or meddle with or redress the grievances or aid the personal interests of teachers. If they are not large-minded enough to help him make his success possible they are to be prohibited by law from doing things which must humiliate and in the end overthrow him.

7. The Superintendent of Instruction is to be charged with building up a competent, right-spirited, enthusiastic teaching force. If there is a bad spirit or worthless teaching in any public school-room in the city he must be made to answer for it. To enable him to bear this great responsibility I think he should have the absolute power to appoint, assign to work and remove teachers. If a community will not go to this length it may compromise upon

appointments being made by a board of examiners or assistant superintendents, or probably by the Board of Education upon the recommendation of the superintendent, but I think experience amply shows these compromise expedients to invade a sound principle and provide only partial remedies of a rampant evil. At all events there is no hope at all unless the right of initiative concerning appointments upon the instructional force is clearly with the superintendent, and the power of removal is his absolutely. When one man has the responsibility of appointments he will guard admissions to the teaching service. A teacher, no matter how unfit, who has not committed some overt act positively criminal or immoral, can never be removed when it is left to the affirmative action of a board. No one finds pleasure in removing a teacher, but when one experienced man must take the matter upon his conscience and answer to the high interests that are at stake he will let judgment and conscience have their way.

8. There must be recognition of artistic teaching in all the lower as well as in the upper grades. There must be promotion on the basis of merit. There must be advance of pay with length of competent service. Self-respecting independence must be encouraged. There must be opportunity for the play of individual genius thru freedom in the teaching. The point of equipoise between individualism and safe general results must be found. Self-seeking must be repelled and self-improvement exacted. There must be a leadership which commands respect and carries the whole mass into the very heart of a community's regard.

9. There must be publicity about all that is done. The purposes and the plans for attaining them must be published and declared. For example, the superintendent will make no appointment unless fixed standards of intellectual qualifications are reached. He must also exact pedagogical training. A city which would have a school system of marked excellence must be training teachers for its own service. This much must precede a trial: then a continuing appointment must wait upon proved success. It must all be explained again and again. It must all be kept in print ready for convenient distribution. The system must have policies of its own and be assertive, even aggressive about them. Of course its policies must be open and above board, and it must adhere to them without any exceptions. There are men who think that published policies are only to throw dust in the eyes of the public; that there are to be secret passages and dark-lantern processes to gain selfish ends. If there are any, the whole system will know it, and the whole enterprise will be stranded. If there is complete integrity

about it, the teaching will have new life in it and the spirit of the force will rise with a bound.

10. The city must treat its teachers with full justice. It must not provoke movements for self-protection among the teachers. It must leave no excuse for organizations to increase pay and control the policies or the officers of the system. Organizations for self-improvement are all right; organizations for selfish ends are all wrong. There should be no just ground for them, and where there is none, they should not be allowed. All these things are earmarks of the soundness or of the decrepitude of a school system.

Albany, N. Y. ANDREW S. DRAPER,

Albertus Magnus as a Teacher.

A woodcut made at Cologne, about 1480.

THEORY AND PRACTICE OF TEACHING.

Distinction Between Work and Play.*

TO understand the distinction between work and play is of consequence to all students of education, but, in particular, to those who regard Froebel as their master, because he is specially identified in English and American popular opinion with a belief in the educative value of play. Not that this belief originated with him. Rousseau, Locke, Montaigne, among other moderns; Plato, most conspicuously among the ancients, had written at greater length than Froebel upon the subject of play in education. But the Anglo-Saxon mind is impressed not so much with written theory on education — of which, indeed, it remains for the most part ignorant — as with a working institution, which it can watch in operation. This institution is furnished by the kindergarten; and it is, therefore, with the founder of the kindergarten that we usually associate the idea that play educates. On this very ground, one of the latest critics of the kindergarten, the admirable humorist "Mr. Dooley," in his "Philosophy," attacks the system for its alleged want of seriousness and grip on the actualities of life. What children mainly need to get, he says, is a "strangle-hold," that is an intense power of concentration on the business in hand, whether it is interesting or not. This they can never acquire by following their own caprices, and playing at work. And "Mr. Dooley" concludes with the aphorism that "it doesn't matter what you teach children, so long as they don't want to learn it."

So far as criticisms of this kind are aimed at Froebel personally, they overlook the fact that the kindergarten embodies only a portion of his educational theory, and was intended to provide for only a comparatively short section of the period of growth. That whole period was divided by him into four stages — (1) the nursling, up to the age of two and a half or three years; (2) the child, from three to seven years; (3) the boy or girl, from seven to sixteen or seventeen; (4) the youth or maiden, from seventeen to full age. Of these, the child stage, from the age of two or three to that of seven or eight, he calls the stage of play and speech, during which, as he phrases it, the child is chiefly occupied in "making the inner outer"; that is, in arriving at self-expression thru movement and utterance. The next stage, that of the boy and girl, is specially the work stage, during which the growing mind "makes the outer inner"; that is, masters its surroundings, learns to understand them, and, in time, to control them.

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* Partial report of an address before the Froebel Society of Great Britain.

Thus our distinction is one on which Froebel himself lays stress. There is nothing in his writings to suggest that he ever confused play and work. Yet many people would agree with "Mr. Dooley" in saying that, if not Froebel, at least the Froebelians have been guilty of this confusion. It seems well worth while, therefore, to grapple with the distinction, and to aim at arriving at clear ideas upon four main questions: (*a*) In what points does play differ from work? (*b*) What light have recent biological investigations thrown upon the nature of play and its educative value? (*c*) What is the relation of play to other educative activities, and what is the specific function of play in education? (*d*) What is the bearing of all this on school practice, and especially on the practice of kindergartens?

POINTS OF DIFFERENCE.

In trying for an answer to a question of definition such as this, we are most likely to arrive at the simplest and broadest truths by following the old Greek method of examining commonly-received ideas embodied in stories, proverbs, and ordinary usages of words. Thus it is striking to find that the conception of work is often associated in early forms of religious belief with the idea of a fall, by which mankind passed from a state of innocence to that of a consciousness of good and evil, accompanied by a necessity, till then unknown, of laboring for food.

The ancient poets conceived of the earliest Golden Age as one in which there was no work and no exchange of goods, when the earth was untilled and the sea was untravelled. Such an age, they conceived, should some day return, when time had passed thru an entire cycle.

Our human life was conceived of as lying between a Paradise Lost of innocence and a Paradise Regained of ultimate victory and restoration. This intermediate state is one of labor and sorrow in accordance with the curse — "In the sweat of thy face shalt thou eat bread" — denounced against the first man who ate of the tree of the knowledge of good and evil. Heaven, on the other hand, was conceived of as a state of existence in which endeavor was to be replaced by fruition and faith by love — a state of occupation, no doubt, but of spontaneous and entirely happy occupation, where live the souls in bliss —

> In solemn troops and sweet societies
> That sing, and singing in their glory move.

Whatever other meaning we may attach to these conceptions, it is clear that they symbolize the spiritual truth that uneasiness and effort are signs of imperfect adjustment; while enjoyable activity is an anticipation of that harmonized service which is perfect freedom; and, further, that in activity of either an extremely simple or of an extremely developed type the distinction between work and play does not arise, or arises only to be absorbed in a self-prompted energy which contains both. This is evidently true of infants, who are intensely and seriously busy in a number of ways, which we cannot classify under either the head of work or the head of play. It is true also of certain forms of adult activity —*e.g.*, of a mother's laborious tending of her children, of a painter's pre-occupation with his studies, of the ceaseless practice of a devoted musician. Such forms of activity would be called work by some, because they imply responsible effort which it is the duty of the persons engaged in them to expend; by others they would be called play, because they are in each case the thing of all others that these persons love to do. They are self-expressive; they are, in the fullest sense of the words, *free* and *spontaneous*. The truth seems to be that such higher activities are both work and play in one.

In the same way a teacher who is truly fond of children and of the subjects which she teaches never finds her work *mere* work. It is, at least, partly self-expressive; duty and spontaneity are harmonized in it, and for intervals, at any rate, the teacher is in the Paradise Regained where the distinction is lost. It is only when, owing to some maladjustment or other, the activity becomes sheer strain and drudgery, that she falls to earth again. It is, however, only in the higher arts that such a fusion of work and play becomes possible.

In many forms of activity there is so slight an amount of spontaneity and self-expression, that nothing but contract and obligation can avail to keep people steadily employed upon them. The clerk who enters figures all day long in books cannot, unless he is a Tim Linkinwater, have any doubt in his mind as to whether he is really working or playing; so must it be with a stoker in a stoke-hole, with a factory-hand who attends, year in and year out, to a particular corner of a huge piece of machinery, with a shop-girl or a type-writer or a bricklayer. And that is why leisure and play are of such importance to these persons, and ought to be so largely considered in their education.

Even so, however, it is not easy to come at the essential difference between work and play. Herbert Spencer would make it consist in this: that work has to do with what directly affects the increase of means to live, the life-preserving activities; while play is concerned with matters less vital. This is exactly parallel to the distinction in economics between productive and unproductive expenditure. Neither distinction, however, will stand investigation. The amount of human energy or of human wealth expended upon simply *preserving* life is relatively small; the greater quantity of both goes to *improving* life in some way or other, and, whether the improvement takes the form of a tunnel thru the Alps, or of a watercolor painting, or of a shapely bonnet, or of the perfect singing of a song, men will be willing to give something for it, if only, in their opinion, it makes life better worth having. The money or the energy expended on the making of a cathedral is just as productive as that spent upon plowing a cornfield or making an armchair, since it satisfies a human need. It seems vain to look for the difference between work and play here, unless we are going to take as simple a view of the world as a certain tobacconist whom I once overheard speaking to a cornet-player. The poor minstrel had been laboriously playing his instrument for twenty minutes in the rain outside the tobacconist's cosy shop; but, when he asked for money, "No, I've nothing for you," said the shopman; "*we* 'ave to work for what *we* gets."

Still less will it do to say that work is that part of our activity for which we are paid — since this would exclude all that vast quantity of gratuitous labor, which every one would call work, such as that of Sunday-school teachers, or officers of associations.

We might spend much more time in examining other proposed grounds of distinction, such as that play is "free" and "pleasurable," while work is "constrained" and "not directly motived by pleasure"; but our limits compel us instead to state a provisional definition dogmatically, and only to indicate roughly the reasons for its adoption and for the rejection of others.

Work is an expenditure of energy in pursuit of a required end, an object outside itself. This object may either be set by superior force of others, as in human slavery or in the servitude of domestic animals; or it may be arranged by contract and bargain, as in the different forms of paid labor; or it may be imposed by the worker's own sense of duty or obligation, as in religious or philanthropic work; or it may be fixed by the needs or desires of the worker, as in the case of a peasant proprietor who tills his own soil for his own sustenance, or of a pianist who repeats the same musical phrase a thousand times, not because he specially enjoys it, but to improve his mastery of his instrument.

Play is an expenditure of energy with no further intentional end than the action itself, like the gambols of a kitten or the running and jumping of boys let loose from school. Such an expenditure may be caused by an overflow of accumulated force, or by such an instinctive desire for exercise as appears to be a physiological correlative of growth, or by imitation, or by suggestion, or by other motives. But its characteristic mark is that it is performed for its own sake, and not for an ulterior object; thus spontaneity and a sense of pleasure (which may also accompany work) necessarily accompany play. But it is important to notice that pleasure is not the object of play. A boy runs because he wants to *run*, not because he wants to be pleased. The pleasure follows, or accompanies, does not precede the act.

Even with this distinction before us, we shall often find it hard to classify activities. Thus football is a form of play or sport; but when it is compulsory, or is played professionally, it may become work, and sometimes a sordid form of work. Even the element of competition tends to make play less playful, in so far as it is allowed to make the *winning* of the game more of an object than the *playing* of the game. The feeling of many people that "leagues" and "cups" and "records" and "averages" tend to injure the character of sport is based on solid ground. Similarly with the element of chance or hazard, an element universally found in some kinds of play — as soon as palpable profit turns upon the fall of the cards or the cast of the die, an ingredient that speedily proves fatal to true "play" has been introduced, an external object which may absorb the whole interest of the so-called "player." So also with the desire for sympathy or applause, a feeling that accompanies most forms of play. This quickly degenerates into "showing off" and "playing to the gallery," when the external object dominates the player's mind.

But, besides this objective distinction, which may be expressed by saying that play is a self-contained activity, while work is undertaken with a view to some further end, it is also the case that there is a subjective or psychological difference between the *moods* of men and animals when at work and at play. The sense of tension and responsibility which enters into the working frame of mind is replaced in play by a feeling of light-heartedness and relaxation. The general truth of this is, indeed, modified by the elements of competition and the desire to excel, combined with the great complexity which distinguishes some modern forms of play. Thus an English public-school boy plays cricket with an intense solemnity and absorption which he does not always bring to bear upon what he calls his "work." And some people would even deny the very name of "play" to such a game as chess, on the ground that the characteristic mood of its "players" is deep concentration, marked by extreme physical immobility. Still, speaking broadly, we may allow that a mental state of freedom and enjoyment is characteristic of play, and one of fixity and effort is characteristic of work. In their extremes, where one of the two states becomes generally dominant in a character, there arises, on one side, an habitual irresponsibility and "devil-may-careness"; and, on the other, a settled anxiety and sternness. These two temperaments make a rich contrast, such as we find in history in the types of Cavalier and Puritan; or in literature, as in Shakespeare's comparison of Cassius and Antony, placed in the mouth of Julius Cæsar:

> Let me have men about me that are fat,
> Sleek-headed men, and such as sleep o' nights,
> Yond Cassius has a lean and hungry look;
> He thinks too much: such men are dangerous.
>
> . . . . . .
>
> He reads much,
> He is a great observer, and he looks
> Quite through the deeds of men: he loves no plays *
> As thou dost, Antony; he hears no music;
> Seldom he smiles, and smiles in such a sort
> As if he mock'd himself and scorn'd his spirit
> That could be moved to smile at anything.

NATURE OF PLAY.

We must turn now to our second question. What light have recent biological investigations thrown upon the nature of play and its educative value? For a full answer to this question we must go to the two great works of Karl Groos, "The Games of Animals," and "The Games of Men," which were published at Jena in 1896 and 1899, respectively, and which have both been translated into English.

Among animals low down on the scale of life, *e.g.*, the reptiles, individuals come into the world in such a condition that they are fairly well able to take care of themselves. Among these we find few or no traces of play. On the other hand, among animals of more complicated structure the young are born in a helpless state, and take some little time before they can "fend for themselves." During their period of growth we find various forms of "play," bodily movements which are just of the kind best fitted to strengthen the limbs, quicken the senses, and prepare the whole organism for its later activities. Thus, in a beast of prey, like the cat or the weasel, the games of the young ones take the form sometimes of a hunt, sometimes of a sham fight. On the other hand, in animals whose future survival will depend upon their speed, such as deer, rabbits, or wild sheep, the games often assume the form of running, leaping, dodging, and wheeling.

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* Games.

Play is thus the *active aspect of growth*, which gives an animal the fuller and fuller use of its powers; it is the practice, exercise, and experimentation which precede the regular employment of the limbs and senses. The German of Karl Groos puts this main point very neatly: play is the *Vorübung* and the *Einübung* which must go before *Ausübung*. Thus play appears as the functioning of hereditary, innate instincts, which can only come to perfection thru this preliminary use. In the case of the highest animals, and, above all, of Man, imitation becomes an important element in play, and so also do its gregarious or social aspects.

It will be realized at once that in these views of Karl Groos, confirmed as they are by a mass of careful observations, we have a scientific basis for a belief in the educative force of play, such as Froebel could only dimly and imperfectly anticipate.

It is an obvious corollary of this view that, in the different forms of play adopted by children in their various stages of growth, the general progress of the whole race is recapitulated, or, as an American writer (L. Gulick) expresses it, "Play is the ontogenetic rehearsal of the phylogenetic series." This is just an application of the Herbartian "culture epochs" theory to the sphere of play.

A further, tho very different, confirmation by recent scientific investigation of Froebel's belief in the importance of play is to be found in the proofs furnished by experimental psychology that pleasurable activity stimulates and heightens the vitality of children. This was current opinion long ago; but it is now scientific fact, measured and recorded.

EDUCATIONAL FUNCTION OF PLAY.

What is the relation of play to other forms of educative activity, and what is its specific function in education? As we regard infants? The answer is plain enough. It may be said of them, as of young animals, that play is their education and education is their play. The use of their senses and limbs in tasting, seeing, hearing, and handling is a form of experimentation of which the wise educator, inspired by Froebel and guided by science, will take the fullest advantage. Up to the age of four or five, indeed, it is, perhaps, truer to say that the distinction between work and play does not yet arise, but that the movements and utterances of the child, under the watchful care of mother or teacher, are play and work in one.

Gradually, however, the distinction becomes valuable and even indispensable. For instance, the little child learns to dress and wash itself. At first this is play; but, as the child's strength and skill increase, it must also be work. Even when it no longer amuses the child, as a new sensation, to brush its own hair, yet it must continue to do so as work; that is, for the sake of an ulterior object — its own neatness and the approval of others. So with other activities; practiced first of all as play, for their own sake, with the help of impulse and curiosity, they must be kept up as work for the sake of further ends, even when the caprice of the moment is against their performance. Cleanliness, for example, may be an instinct with some children; but with most it is only a habit, which, in its earliest stages, must have a strong element of work in its composition. At the same time, common sense and the desire for economy of effort will combine with educational philosophy in recommending that the transition from impulsive, instinctive action to regulated, intentional action should be made as gently as possible, and should be restricted at first to a number of simple and easily intelligible acts, where even an infant can grasp the purpose for which they are to be done. Thus, slowly and distinctly, will the child come to the knowledge of good and evil, the "everlasting yea" and the "everlasting nay," the thing that must on no account be left undone, and the thing that must on no account be done. Thus, little by little, grows the power of inhibition, and with it the power of attention, the negative and positive poles of the will. Thus is founded the strong character, at once energetic and loyal, full of initiative, yet self-controlled — the character that may readily pass thru the gates of effort and obedience into the Paradise Regained of healthy and absorbed activity.

It is of great importance, therefore, to bear in mind that, when we speak of the supreme value of play at the kindergarten stage, *we are not thinking of play in antithesis to work, but rather of play as the most convenient name for the total sum of self-activity in the child.* This self-activity resembles play, in that it is pursued for its own sake and as the expression of inner impulse; but it resembles work in so far as it is quite earnestly carried on, and is the most strenuous form of action of which the child is, at that stage, capable.

When once the antithesis has arisen, and the child's eyes are opened to know good and evil, then the child must be accustomed from time to time, in gradually lengthened periods, to attack a *task* with entire attention, and not to take its mind off until that task has been completed. Hence comes the mental grip, the "strangle-hold," which our friend "Mr. Dooley" justly looks for as one result of a sound training. Yet his paradox, that "it doesn't matter what you teach children, so long as they don't want to learn it," is just as certainly a fatal extreme as that excessive indulgence to caprice which it is intended to correct. And from both of these extremes a sound study of Froebel ought to preserve us.

Work need never be irrational servitude, and the highest forms of work admit of the greatest amount of self-expression, and therefore of true freedom, relieved from "the weight of chance desires." Thanks, in great measure, to Froebel, the whole world is coming to see that the work of a little child must be most delicately adapted to its stage of growth, and must give full scope to its budding instincts, its love of muscular movement, of variety, of constructiveness, of living animals and plants, of pictures, and of cheerful sights and sounds. There is no reason why this should impair the seriousness and the mental concentration which work ought always to imply. On the contrary, the "strangle-hold" is far easier to get upon some subject which, to begin with, appeals to child-nature. So frail and wavering is the little child's power of continuous attention that we need not be afraid that we can ever make work "too interesting," if it be genuine *work*, *i.e.*, energy devoted to a definite object.

On the other hand, there seems no doubt that in most of our schools for children from seven to fourteen the course of study is still far too abstract and ill-adapted to growing minds. The elements of *self-activity* and *self-expression* have yet to receive their proper scope in many of our schools for older children.

These elements — which may, if folks please, be called the play-elements in work — distinguish true work from meaningless and stupefying drudgery. It is all the more essential that they should enter into the work of our schools, because they have, to a large extent, ceased to enter into the play. As Mr. Rooper pointed out long ago in his charming book on "School and Home," the prevalence of some half-a-dozen great games in English schools, to the destruction of all other pastimes, hobbies, and amusements, has had some deplorable results. Cricket and football played upon pitches prepared by "groundmen" are, after all, stereotyped and monotonous, if contrasted with the total range of young activities which they have killed out. Grand games as they are, they give scope to a comparatively few fine qualities, such as courage, decision, and the like; and altogether starve a number of others scarcely less important, such as constructiveness, curiosity, ingenuity, the power of continuous thinking, the power of working to a plan. Now that these games are not merely obligatory on all, but that the day is so arranged that there is very little time or spare energy for anything but compulsory work and compulsory games, certain forms of the play-spirit have deserted these schools altogether, and there is little or no scope in them for variety of occupation, for initiative, for a thoughtful boy's "hobby." It may be seriously questioned whether the minute regulation of a boy's or girl's time-table has not been pushed too far. If Waterloo was won on English playing-fields, may it not be in a certain sense true that Colenso was lost there?

These are grave matters, not to be settled lightly. But I feel no doubt that those schools for boys and girls are right which vary the eternal pursuit of games of ball with other occupations, such as the learning of some handicraft, the playing of a musical instrument, simple forms of farm and dairy work, surveying, map-making, cookery, and the like. Such forms of play bring into use many dexterities, which, if not exercised in childhood, are apt to perish by atrophy. They lay the foundation of hobbies and tastes which may remain a source of ever-fresh delight, even "forty years on," when football has long ceased to be a possibility. And, at the present moment, they give a boy something pleasant to do, even when he cannot find twenty-one other boys to kick a ball with him.

BEARINGS ON SCHOOL PRACTICE.

How does all this bear upon school practice, and particularly on the practice of kindergartens? To begin with, there is good reason for thinking that a too mechanical conception of work still prevails in many of our schools, and that much can be done to bring the curriculum into closer touch with the instincts and interests of child-nature. A great deal is being attempted already. The *neuere Richtung*, or reform method of teaching modern languages, is a system conceived entirely in the spirit of Froebel. So also is the movement for more "practical methods" in teaching mathematics, for which Prof. Perry is doing so much. No doubt these methods have their characteristic dangers — the "play" element may easily become too strong, as it does sometimes in so-called "heuristic" science methods. But, in contrast with what they replace — the meaningless memorizing of misunderstood formulæ — they are an immense improvement, and further experience will show us how to avoid their dangers.

As for kindergartens, I would venture to ask whether, in some of them, the development of the spirit of "work" is not artificially delayed later than is advisable, and whether the habit of continuous, absorbed attention gets enough practice among the older children? I would also ask whether the type of "play" often used in action-plays is really "play" at all, or something invented by "grown-ups" to look like play? Certainly it does not look like Karl Groos's "biological play"; it is not an anticipation by the young organism of the sort of situations and movements which will afterwards occur in "real life." This "biological play" is found among children when they are left to themselves, and when they act in "make-believe" armies and wedding processions, and church services, and shopping, and house-building, and the like. But I never saw a child, left to itself, act the part of a daisy, or a tree with the leaves rustling, or any of the other vegetable or inanimate objects which it is supposed to represent in many "action-plays." These are not instinctive, self-expressive games; they are not play, they are not work. The words in which they are written are often inexcusably feeble and drivelling, and the music with which they are accompanied is sometimes not even tenth-rate. A good many of them want "reforming altogether."

This is a matter of vital importance to us as a nation. Who can watch a number of young men and women of the working classes let loose for a holiday without feeling that their education — in spite of all our boasted "games" — has not taught them to play? They have, in too many cases, no resources, no pastimes, no hobbies, no pleasant and graceful ways of "fleeting time carelessly, as they did in the golden days." Their singing is a discordant yell, their movements are clumsy and violent. They seem wholly without that training for a free and worthy enjoyment of leisure which Plato considered one of the chief aims of education. Just at the present time every one cries out for "technical and commercial instruction" that our people may learn to *work*. We have still to discover that, even from the point of view of vital efficiency, it is no less indispensable that they should also be trained in desirable forms of *play*.

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How to be Interesting in Teaching.*

NATURE has seen to it that certain things shall immediately and invariably excite our interest. Loud sounds, bright colors, pungent odors, all attract our attention without any effort. They are sometimes called "grosser interests," because they appeal to the self in a very marked way. Anything connected with our appetites interests us whether we will or no. This, after all, is not a matter for which we should feel called upon to apologize. It is Nature's provision to ensure that we shall attend to certain matters that she knows to be of primary importance to our well-being. Further, it must not be forgotten that it is impossible for us ever to get beyond this self-reference in interest. From its nature, all interest is self-referent, however altruistic the interested person may be. To say that I am interested in a thing is only another way of saying that that thing in some way or other *affects* me. Even etymologically the word means a state of affairs in which one thing affects another, in which some thing matters to another. The first step then in arousing a person's interest in any matter is to bring that matter into relation with the person.

When we say that a piece of candy is more interesting to a child than is a spelling book, we discriminate between an interest that is caused by a provision of Nature and one that, where it exists at all, is the result of deliberate effort on the part of somebody, tho the success of this effort depends ultimately upon a state of things for which Nature is responsible. Obviously we can never get beyond Nature. It is because a boy is what he is that he is interested in plum-pudding, and it is for precisely the same reason that he is interested in postage stamps. The fact that the latter interest is of later development and implies certain external stimulants, in no way alters the fact that each interest is aroused by bringing into contact with the boy-ego certain things for which that ego has a more or less direct affinity.

The degree of directness with which matters appeal to the ego introduces difficulties in the way of cultivating certain interests as compared with others. But the process of forming the connection is the same in all cases.

When we hear, as we sometimes do, that it is impossible to arouse the interest of certain people in certain subjects, all that we are called upon to believe is that immediate interest cannot be aroused in a given subject at a given stage.

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* Address before the London College of Preceptors. Printed in full in the *Educational Times*.

START FROM THE PUPIL'S POINT OF VIEW.

The first principle in seeking to make our teaching interesting is to start in every case from the pupil's point of view. This to the teacher is of the first importance; for, if the pupil is not interested *in his work*, nothing else really matters. It goes without saying that the words on which I have laid stress in the last sentence are of the essence of the matter. It is not difficult to arouse the interest of the pupils in matters outside their work. Teachers can easily become interesting by telling funny stories, or by making flamboyant but uninstructive experiments; but, unless the interest is in the work as such, it is worse than useless. It is a force against, not for, the teacher's true aims.

It is the teacher's business to seek about till he finds some point of connection between the present content of the pupil's mind and the matter he wishes to teach. However remote this connection may be, it must be used, as there is no other way in which the new matter can be really assimilated with the old. To be interesting, from this point of view, is equivalent to being able to teach at all. How can I get the pupil to regard the matter I want to teach him? is the first question that the teacher must face before he even begins to teach. Only by adopting the point of view of the pupil can the teacher lead the pupil to deal successfully with any subject.

Naturally, the wise teacher will seek the nearest point of contact between the present content of the pupil's mind and the matter about to be introduced. Further, he will select a point of contact that involves a real casual relation with the essential points of the subject in hand. There are probably many mere extrinsic links of connection between the pupil's present knowledge and the subjects to be taught, but these must give way to matters that form an integral part of the system of things with which the subject is connected.

RELATE NEW FACTS WITH THE PUPIL'S OLD FACTS.

Hence arises the second principle in the art of being interesting. Not only must we approach the subject from the pupil's point of view, but we must prepare a place for the new fact among the facts already within the pupil's knowledge.

An absolutely new thing has no interest for us. Indeed, the very word "absolutely" shows this. We can have no relation with it whatever if it be absolutely new; for, if we do find that we have some means of relating the new fact to our past experience, it is clearly not absolutely new. Suppose I utter four words that are unfamiliar to you: they will fall naturally into different classes, according to the way in which you seek to bring them into relation with your present knowledge. Take the words "aprosexia," "grangerise," "cheeselep," "lazy-tongs." The first word you probably do not know, and, indeed, find it difficult to separate the sounds of which it is made up; the second either conveys its meaning at once from previous knowledge or passes through the mind without leaving any trace whatever; the third probably suggests something about a dairy or cookery or larders, tho there is nothing definite about the meaning; the fourth either calls up a perfect picture of the instrument or it raises a problem of which two of the terms are familiar, but related to one another in a way that is obscure.

These words probably have roused a certain amount of interest in your minds as they have been used here; but this interest does not lie in the words themselves, but in the connection in which they are used. Isolated every such meaningless term has no interest for us, save the interest attaching to the question "What does it mean?" — a question that, as you see, really is equivalent to "What relation has the expression to the rest of the content of my mind?" If we are ever to learn anything new, we must have this irreducible surd of interest. One single unknown thing or term rouses our curiosity because it stands out against all the known and demands explanation. But a series or group of such unknowns daunts us. Savages are not so much interested as distressed by the wonders of civilization. They cannot take them in. "There are too many people, too many houses, too many of everything. We are tired of it all."

There is a similar failure of interest in the perfectly familiar. The formation of habit is fatal to interest. It is the new in an old setting, or the old in a new setting, that rouses interest.

If a fact is to be presented in a particular context, it is always well to revive all the related ideas, so that they may form a suitable setting for the new fact. If a connection can be established between the old facts and the new, there is interest aroused. If this connection comes with more or less of a shock of surprise, the interest is increased. From this point of view, interest may be described as the hedonic tone accompanying mental assimilation.

It is sometimes possible to carry the preparation further, and not only have the ideas gathered together in such a way as to give the new idea a welcome, but so to work upon them that there arises a positive desire for the coming fact. Facts may be so presented to the mind as to make it clamorous for another fact to complete a combination.

Even such simple devices as the notice on the front board of the sandwich man: "Don't look at my back," are successful in creating a vacuum that the mind insists upon filling. Human nature acts like the rest of Nature when brought face to face with a vacuum. When the teacher has brought his class to the point of wanting to know certain things he has made a good use of interest.

It is not always either necessary or desirable that the teacher should indicate to the pupils what he desires them to be interested in. What he has to do is to present his facts in such a way that they shall inevitably arouse interest of a certain kind. The teacher who is always explaining, always talking, invariably has to account for a great leakage of interest. The enthymeme is a logical form the full meaning of which has not yet been realized by many teachers. The homely phrase "putting two and two together" represents a process of the first importance in the use and cultivation of interest. To feed a class with premisses and to leave to it the easy work of supplying conclusions is an excellent way of arousing interest. Even if there be no real thought involved, there is distinct advantage in any way of presenting truth that ensures that the pupil shall assimilate it. "Why not tell him the conclusion, since it is already implied in the premisses?" is a question that betrays a misconception of the place of co-operation in teaching. It *does* matter whether the fact is stated baldly by the teacher or deduced with pikestaff directness from materials supplied. It may be a poor thing, but it is the pupil's own, and is held by him in a totally different way from that in which he holds facts given him directly.

INTEREST AS SELF-ACTIVITY.

Interest is in its very nature active. It implies a certain satisfaction in contemplating what is brought before the mind; but along with this satisfaction is the desire for a more extended field. There is always a purpose to be served where there is interest. This purpose may rest content with fulfilment on the ideational plane, or may seek an outlet in real life; but from the point of view of interest the difference is immaterial.

The activity that marks interest is self-activity. A child is always most interested in what he himself does. Accordingly, one of the most important principles in making our teaching interesting is to throw as much work as possible on the pupils. It is so easy for the teacher to make the blunder of applying the laws of interest to his own case, and of mistaking the glow of satisfaction he feels after doing a bit of teaching, for an indication that his pupils are interested. Teachers cannot be too frequently reminded that not what they do is important, but what their pupils do. The test must always be applied to the pupils, not to the teacher.

As a rule, the less prominent the teacher makes himself in the teaching process the more interested the pupils become, because the more is left for them to do. At first sight, this may seem a plausible argument in favor of lazy teachers. But in order that the pupils shall do most of the work during the lesson hour the teacher must do most of the work before the lesson hour. The essence of feeling interested in the sensation of working from one's own initiative. Now it appears that we are here face to face with two irreconcilable positions. The teacher must so arrange the work that the pupils cannot but act in a particular way. Yet the pupils must be allowed to follow their own initiative. The explanation is that the teacher in his arrangements takes account of the nature of the pupils. He knows that under given circumstances they must act thus and thus, because of their very nature. The child is allowed to follow the laws of his own development, because the teacher has studied those laws and has planned accordingly.

COMPETING INTERESTS.

It is too often forgotten that interest in any one thing can be aroused only at the expense of withdrawing it from some other thing. Any given interest is the result of a struggle among various claimants for that interest. In educational work we are so busy with the positive side that we are apt to neglect the negative. We often fail to arouse interest in one thing because we neglect the fact that interest is already engaged with something else. We ought to pay more attention than we usually do to the external claims on the interest of our pupils. Most teachers are now keenly alive to the need for a good system of ventilation; but they seldom correlate this need with the question of retaining the interest of the pupils. Yet there is no more formidable competitor for the interest of the children than the headache that results from breathing foul air. A headache has an absorbing interest for most people. Again anything striking and new in the room, whether in the way of apparatus or adornment, is an element to be reckoned with in the struggle for interest. Even personal peculiarities on the part of the teacher may have an adverse influence. The pupil who is anxious to keep an exact record of the number of times the master uses the phrase "as it were" during the course of the lesson, is not in a suitable frame of mind to give his whole-hearted interest to anything else.

In the actual process of teaching the same competition for interest is going on, and there is danger that the teacher will fail from the very importance he attaches to *rousing* interest. He is so occupied with winding up the clock of interest that he forgets that it is necessary to let it run down. Any interest roused during a lesson must either be of fundamental importance to that lesson, and so to be retained thruout, or it should be allowed to exhaust itself before a new interest is introduced.

There are certain interests so strong in themselves that they should never be introduced at all in the course of a lesson. But sometimes with matters that legitimately belong to the lesson there may be minor interests aroused that do serious damage unless they are allayed. The best way to kill an interest is to satisfy it. Accordingly, all subordinate points of interest should be ruthlessly explained away, tho the main interests of the lesson are carefully conserved. If a story is told to illustrate a particular point, that story should be complete in itself and should have a definite end — even tho the end is not in itself essential to the point to be illustrated.

TEACHER'S INTEREST AND PUPIL'S INTEREST.

It is sometimes argued that in order to be interesting the teacher must be himself interested; but there is clearly a distinction between the teacher's interest and the pupil's. The pupil ought to be interested in the subject taught, while the teacher cannot be expected to have anything like the same keenness, since it is all familiar ground to him. Yet it cannot for a moment be expected that an uninterested teacher will rouse the interest of his class. The fact is that teacher and pupil, during a well taught lesson, are both interested — but in different things. The teacher's interest centres in the interaction of minds: he is less interested in the facts he is presenting than in the effects these facts are producing on the minds of his pupils. All the same, interest is infectious; the intellectual glow that accompanies the action and reaction of active minds on each other ought to accompany every lesson.

The interest of the master cannot fail to inspire the pupil, even tho the incidence of interest be different in the two cases. The form in which the teacher may show his interest depends to some extent on his temperament. If there is any choice between the two extremes, it is better to show too much interest than too little. It is, in particular, a great pity when a teacher — thru fear of talking too much, or giving his pupils more help than he ought — withdraws within himself and deals with the class in a coldly intellectual way. Speaking generally, however, a well taught class acts like a grateful blaze on a cold day, and interest begets interest.

CHILD STUDY.

Books of My Childhood.

A WRITER of the present generation who attempts to recall the books read in childhood may still expect that many readers of the same age will recall the same—that, perhaps, in some, tender and pathetic and mystic memories may reassert themselves, rousing faint echoes of the choir-voices, piercing, sweet, and glorious organ-tones that once pealed thru the vast cathedral of holy infancy. Soon this will be no longer the case. The variety of the books read by our children is so great that they will hardly be able to compare notes on them as we may still do.

Where *are* the books of our childhood? Few of us, I fear, can reply: "On my book-shelves." The most we can generally claim is a few precious survivals—a Bible given on an early birthday, a Shakespeare, or some other poet, presented as a reward for our youthful efforts in recitation—perhaps a beloved Grimm or Hans Andersen. Many of our old favorites are out of print; and, for the rest, what would a new copy be to us compared with that which we loved and thumbed, which charmed away our sullenness, and caused us to forget all time, particularly meal-times, and the fascinations of which sustained us under Nurse's contemptuous rebukes for wool-gathering?

> The pansy at my feet
> Doth the same tale repeat:
> Whither is fled the visionary gleam?
> Where is it now, the glory and the dream?

One who writes on this subject must, therefore, be content to rely chiefly on the memory, which, indeed, tho liable enough to error as to *facts*, is very trustworthy with regard to ***impressions***.

The first book which I can remember reading was the "Red Spelling-Book." That was what we called it (my inseparable sister and I). I know no other name. It belongs to a period when we were still called upon to go to bed in the middle of the day, but were beginning to find this rest unnecessary, and discovered, for the first time, that reading was an excellent occupation when you were not allowed to play. In the "Red Spelling-Book" there was a picture of a little boy on a stile, his arms extended, with his right hand to the rising sun. "Before him is north and behind him is south." To ascertain the points of the compass I still often mentally place myself in this boy's attitude, and (such is the force of early association) clothe myself in the little old-fashioned garments in which the "Red Spelling-Book" depicted him. My only other distinct memory in connection with this book is of a description of the form of a Greek temple, illustrated by a picture of the British Museum. This was near the end, where the words at the bottom of the page became terribly polysyllabic.

Another book which I must have read, or heard read, at a very early age was "Little Susy." I have never come across another copy of it; but I fancy that it was fairly well known at that time, and (tho I cannot say why) that it was written by an American. It is, I believe, in three parts — "Little Susy's Six Birthdays," "Little Susy's Six Servants," and "Little Susy's Six Teachers." It was the third part that chiefly impressed me. The delightfully frisky Miss Joy, the motherly Mrs. Love, and the little angel Faith, whom one always thought of as clothed in a perfectly clean nightgown, with slits behind for his wings — these were wholly pleasant figures; but one could not refuse an uncomfortable respect to the excellent Mrs. Patience, nor a shuddering awe to the severe Mr. Ought, who once sent Susy into a dark cupboard for some crime, which I have forgotten. And, then, lastly, there was the terrible Mr. Pain. He might be a very good teacher but he was certainly not attractive — indeed, every little girl who reads the story will make his further acquaintance for herself, and will then discover that he is no gentleman; for he calls when you least expect him, and does not know when to go, and, altho he has many coats, they are none of them becoming.

It is strange to recall the impressions made on one by the early acquaintance with the Bible and Prayer-Book which is usual with an English child. Together with an intense appreciation of the dramatic parts of the former, and of the magnificent diction of both, a profound reverence for the glory and pathos of the story told in the Gospels, and a half-puzzled recognition of the connection between these works and "trying to be good," went the most ludicrous verbal misunderstandings. A child will often show great ingenuity in providing itself with a plausible explanation of a phrase which, at first sight, seems to it utterly unintelligible. I remember being much exercised by the expression in one of the Psalms, "Tho ye have lien among the pots." What was "lien"? Something, evidently, that you could have among the pots. Now, having had French nurses, I know that the French word *lien* had something to do with *binding*, and, in a moment of inspiration, I considered that *bast*, which was used for binding plants, was kept in the toolhouse with the flower-pots. This, it was triumphantly evident, was what the people in the Psalm had!

The Rubrics have a great attraction for the childish mind. I was especially interested by the long Rubric at the beginning of the Communion Service, which was my unfailing resource when my efforts to understand the sermon were peculiarly unsuccessful. Long and seriously have I pondered the case of that "open and notorious evil liver," whom I, in my ignorance, pitied as being merely a person whose liver was out of order; and I often wondered that there were none such in our neighborhood; for, if there were, the Curate had orders to advertise him, and, tho there were plenty of advertisements on the hoardings, I could see none which appeared to refer to him. Every one must remember similar quaint mistakes, which the most careful teaching cannot guard against; for no teacher can penetrate the recesses of the childish mind. They are of no consequence whatever, and he who should argue from them that a child cannot understand the Bible and Prayer-Book, and, therefore, should not have them put into its hands, would be, indeed, a shallow reasoner. A child may, in some sense, be said to understand the Bible better than any grown person.

I had the misfortune not to come across "The Arabian Nights" at an early age; but the Scriptures had made me familiar with Oriental imagery, and then there were "The Tales of the Genii," and, above all, "Lalla Rookh." It is strange how sometimes the authors who have delighted one generation are passed on to the children a little later. I suppose few adult persons now care for "Lalla Rookh."

But what worlds of delight are opened before a child when it first enters that wonderful land where every one lives in a marble palace, where the eye is dazzled with the blaze of jewels, where cold is unknown, and the heat is tempered by delicious fountains and iced sherbet; where, instead of doing lessons, sitting up at a table in a plain frock, pinafore, and "strong shoes," one reclines on luxurious couches, amid the scent of roses, clothed in silk and velvet of brilliant colors; where clapping one's hands brings an army of respectful slaves — one was always the master or mistress, never the slave — and where, to add zest to these somewhat enervating joys, there was always the possibility that the terrible power of some ruler or genie, pouncing out from the dark background in which this brilliant picture was framed, might suddenly place one in so menacing a situation that the greatest cunning would be required in order to evade a violent death!

The world of ancient Greece was represented to me by a single book — amongst works of the kind still unequaled — Kingsley's "Heroes." I must have first read it at a very early age. I remember reading to my nurse the account of how Danae and her child were cast upon the sea; and as I finished, with great expression, "And all that watched them wept, save that cruel father, King Acrisius." she burst out laughing, to my speechless indignation, and dismissed Kingsley with the brief criticism that it was all "tommy-rot." The language of "The Heroes" is apt to fall into rhythm, sometimes of a definite metrical form; this may be a blemish, but it helps to impress it on a child's mind; and it was not long before many phrases from these tales were stored in mine, such, for instance as

> And rosy-fingred Eos came blushing up the sky;

and

> And all night long they shine, a beacon to wandering sailors;
> All day they feast with the gods, on the still blue peaks of Olympus.

The Greek names were, of course, a great stumbling-block; but I always invented a pronunciation of some sort for them, and cared little as to whether it coincided with other people's. Here now is a case in which I do not see that our children have gained much. They have many versions of the Greek myths; we had only one, but it is still the *best;* and the child who is intimately acquainted with this book is already free of the Heroic Age, with its vigorous and enduring men, its wise and noble women, and those awful beings, the gods, grey-eyed and taller than mortal, appearing from a cloud to warn and strengthen.

"The Water-Babies," tho fascinating, was not quite so satisfactory as "The Heroes." There were so many mystifying remarks, and so much ironical language about grown-up people whom one had never heard of. The book is much disfigured by this perfectly unjustifiable sneering at great scientific names and theories which have now quite supplanted Kingsley's.

On one joyful birthday I was presented with "Grimm's Household Tales." Until lately I have been under the happy delusion that my edition was totally unexpurgated, for I found my friends knew nothing of many stories which have long been favorites of mine, but which are omitted in some editions, evidently because their naïve expressions may appear to the sophisticated to touch upon profanity. Not long ago, however, in reading the preface to my "Grimm" — which, of course, a child never does — I made the melancholy discovery that even this editor has omitted one or two stories "to which English mothers might object." He also observes that some may complain that the phrase, "The greater the rogue the better his fortune," occurs in the tales. This is ingenious, for, by apologizing for this as an isolated case, he stands a chance of withdrawing attention from the fact, otherwise but too patent, that the majority of the tales have no directly edifying tendency, and that many of them even set morality at defiance. Such, however, is the want of accordance between the English child and the English mother on this point, that we turned with relief from works which appealed to our higher natures to study the adventures of the Master-thief, who stole a horse from its stable where it was guarded by three men, one holding the bridle, one the tail, and the third sitting on its back; of the monarch who left his kingdom — with our entire approbation — to that one of his sons who proved himself the laziest; of Doctor Know-All, who, being a perfectly ignorant peasant, yet makes a large fortune by pure brag (there is some resemblance between this story and that of "Le Médecin malgré lui"); and of the immortal Brother Lustig, who, after a career of shameless audacity, finally gets into Heaven by playing an impudent trick upon Saint Peter.

Another great reason for the peculiar fascination Grimm had for us children lay in the fact that the translation was almost absolutely literal. We had no idea that the tales were originally written in a foreign language, but we reveled in such expressions as the following: — "He who says *A* must also say *B*." "How do you call your child?" "I have frightened myself so with what I have just seen." "Her eyes burned and *twittered* like lightning." "To whom belongs this beautiful wood?" The echo replied: "King Thrushbeard the good! *Had you taken him, so was it thine!*"

Nor was our feeling purely one of bewilderment when we were confronted by such words as "Hohenstolz," "Allerleirauh," or "Schlauraffenland"; we felt it was our duty to provide a pronunciation for them, and it was as interesting as putting together the dissected map of France in departments.

But, perhaps, the greatest charm of the Grimm stories was their total inconsequence and disregard of mere reason. We are told that Snow-White dies of eating a poisoned apple, which yet never goes further than her mouth, and she recovers on having it jerked out. What a terrible perversion of physiological fact! A young man employs the aid of the Queen Bee in finding which is the youngest *and prettiest* of three princesses, the great difficulty being that they are *all exactly alike!* Two children are made slaves of by the Sprite who lives under the water, but make their escape *one Sunday when she has gone to church!* These improbabilities were hailed with rapture by our ill-regulated minds; nor did we ever weary of the expedient by which the young person who has been coerced into swearing not to reveal to mortal being the treatment she has undergone, yet finds it compatible with honor to make some remarks on the subject *to the oven;* or that other, by which a plain, unvarnished statement to the guilty person of his or her misdeeds, only omitting names, always has the desired effect of inducing the unwary criminal to suggest that "such-an-one" should be placed in a cask, stuck round with nails and pierced with holes, which should then be rolled into the sea.

A book of a very different kind, which made a deep impression on my childhood, was one containing three or four allegories, of which I remember best "The Distant Hills" and "The Shadow of the Cross." In the former, two little girls are bidden to watch the hills and to avoid an old crumbling wall near them. One does so, and all is well with her; but the other — with what awful interest I followed her, lured by a pretty green lizard into the shade of the ancient structure, watching and pursuing it as it darted about! How I long to warn her as the inexorable page drew on which related her ghastly death beneath the ruins of the wall! In "The Shadow of the Cross" what chiefly aroused my horror, more even than the incident of a lion springing out of the wood upon a disobedient child, was the expedient resorted to by some children who had stained their white garments, of rubbing them over with chalk. The thought of all these stains, which they thought hidden, but which would eventually be brought to light, was a perfect nightmare to me. If the minds of the children are cleansed by means of pity and terror, these books are good for them; but I think the point admits of discussion.

The most definite fit of terror from which I remember suffering was brought about by reading a tale of De Quincey's, "The Loaded Dice." This was at a time when I had begun to take books from the shelves, regardless of whether they were suited to my age. The scene in the tomb, where the soldier is gazing, with softened feelings, at the inscription "Blessed are the dead who die in the Lord," and the devil, appearing to claim his soul, points significantly to the last three words, impressed itself with such dreadful distinctness on my mind that it was reproduced in my dreams that night; and when the horror woke me I kept myself for long from sleep, cold and trembling, for fear of coming under its power again.

It is a pleasant consciousness later on, when one has learnt to love and reverence a great author, that one was first introduced to him in early childhood. When, as a woman, I first read "Les Misérables," at a certain point I began to be mystified by a sense of familiarity, a feeling that I knew what was coming. It was where Jean Valjean first meets Cosette and carries the water for her; and especially the description of the unkindness with which she was treated, of her rapturous joy on receiving the grand doll, and of the touching incident of the little *sabot*. Before long I remembered that I had read all this part of the story — translated into English, and, no doubt, much abridged — in some magazine — I think *Little Folks*. I am glad to know that the charm of Hugo was upon me before ever I had heard that dear and great name.

I am afraid I never thoroly appreciated two books which have enjoyed great popularity — "The Wide, Wide World" and "The Lamplighter." The former I found dull; and the latter opens with an incident which caused me such repulsion — a woman, in a rage, throws a kitten into boiling water — that I doubt if I should have read any further, if I had not been carefully taught that to begin reading a book and not to finish it is highly immoral.

My memory of the third is so peculiar that it may be worth mentioning. I have forgotten the title, the story, and every thing but one paragraph, which, strange to say, I remember almost word for word. A little boy has seen two statues in front of the police-station. "One of them represented a fierce and cruel woman, such as he had often seen in the street; but upon her knees, and between her cruel hands, was the image of a murdered child." If readers are disposed to think that I must have been a child with an exceptionally morbid imagination, I would ask them first to try to recall impartially the incidents in their early years which struck them most, and, secondly, to show any child a good illustrated edition of "The Pilgrim's Progress," and observe which pictures arrest its chief attention.

The great allegory had, of course, a strong fascination for me, as it has for most people. I must say that I found the edifying conversations — which the good habits above alluded to forbade me to skip — enormously long. For the matter of that, everything is long to a child; the days are like weeks. But the whole might be described, in the words of Baedeker, as "laborious, but repaying." There was much tramping thro snow, much stumbling over rocks, in the shape of doctrinal terms and archaic expressions — allegory seems to be infectious — but there were many exciting moments, an excellent guide, and a glorious view from the top.

I do not know at what age I began to read Shakespeare; but my sister and I cannot have been very old when we were taken to see Mr. Irving in "Hamlet." We had a cousin, older than ourselves, on a visit, and the day after the play we informed her that she was Horatio; and every now and then one of us would, without the least warning, totter backwards into her arms, gasping:

I die, Horatio;
The potent poison quite o'ercrows my spirit.

I need scarcely say that this play filled us with interest and excitement. The situation which I found most thrilling, tho at the same time exasperating, was that in which Hamlet neglects the opportunity of killing the king while he is praying. I felt a great inclination to put a stop to the Prince's shilly-shallying by showing him how it should be done. That, to be sure, would put a premature end to the play; and, perhaps, other considerations combined to keep me silent.

In these brief jottings of early childish impressions I have not, I believe, included any book which I read for the first time after the age of about ten. Now the fact that the time from the first acquirement of the art of reading for some years onward is peculiarly a period of vivid imagination and deep impressions suggests the doubt whether we are quite wise in filling up our children's time to the extent that is now usual. The advocate of greater leisure might, I think, argue somewhat as follows :

In the first place, the children who do read of their own accord, whether or not they are in a numerical majority, require at least as much consideration as those who do not. And there are many children who only want a little help and suggestion in order to appreciate good books of some kind.

Secondly, the sort of reading they get at school is very far from taking the place of what they would find at home; for instance, one does not read fairy tales at school, or if one does, where is the glamor?

Thirdly, the habits learned at school are, no doubt, invaluable, but might they not be acquired later, or might not the school hours for young children be so shortened as to give them ampler leisure?

Of course, children who are devoted to reading do still find time for it. There is Sunday, and for some there is Saturday, tho there is a tendency to fill up these days too; but I am sure many parents will corroborate with regret the statement that for five days in the week at least a child of eight or ten is often absolutely without leisure.

It is futile to moan over "good old times," which were in some ways very bad; but perhaps an occasional attempt to recall the circumstances of our own childhood, and their effect on our characters, may help us in the consideration of that most difficult and burning question of the day — the right education of our children.

ISABEL C. FORTEY

OUTLINES FOR PEDAGOGIC DISCUSSION.

Moral and Religious Training at School.*

A. The school should not only train to intellectual activities, but to emotional and volitional experience.

I. All instruction should tend toward ethical training.

- 1 The use and abuse of
  - a Percents.
  - b Examinations.
  - c Prizes.
  - d Emulation.
- 2 The danger of purely *moral* teaching.
- 3 The moral value of educational subjects.
  - a Literature (Reading.)
  - b History.
  - c Mathematics.
- 4 Three elements in moral culture.
  - a Right knowing.
    - (1) What is conscience?
    - (2) Why not an infallible guide?
  - b Right living.
  - c Right doing.
- 5 The moral value of Patriotism? Ideals.
  - a What is patriotism?
    - (1) Not boasting.
    - (2) Not partisanship.
    - (3) Not war heroes.
    - (4) It is obedience to law.
    - (5) It is knowledge of government.
    - (6) It is willing service in war or peace.

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* This syllabus was prepared by Supt. M. G. Clark, of Princeton, Ill., for use at a teachers' meeting.

6 What can the school do?
  (1) Inculcate obedience.
  (2) Teach theory of government.
  (3) Teach to take share in government.
  (4) Sing patriotic songs.
  (5) Inculcate reverence for our flag.
  (6) Recite quotations from great national speeches.
  (7) Observe holidays.
  (8) Teach greater respect for parents, home and home institutions.

II. Every school should be distinctly religious.

1 Religious education is necessary to complete manhood and womanhood.
  a Purely moral education will never secure for us the realization of the public school ideal.
    (1) The church and home inadequate.
      (a) Only 50% of the children receive definite religious instruction.
    (2) Religious instruction is not sectarian.

2 The same freedom asked for the Bible that is given to the Koran, or the Veda.
  a The solution.
    (1) The same freedom accorded the Bible that is given to other books.
    (2) Teach it in its reference to literature and history.
    (3) Give as much attention to its stories as to the stories of Greek and other mythologies.
    (4) Use those parts that are of distinct value to character growth for morning readings and talks.

It was my pleasure to speak in the highest terms of EDUCATIONAL FOUNDATIONS at the Montgomery County Teachers' convention. I also took advantage of the opportunity to call attention to the merits of the magazine at the county institute. In Montgomery county I was a member of the "Reading Circle" committee, when, with Professor Eisenhower, I recommended the adoption of the magazine by the teachers of the county. I am quite as loyal to it to-day. **H. A. MARKLEY.**

Linwood, Pa.

HISTORY OF EDUCATION

Humanism and Philanthropinism:

THEIR DIFFERENCES AS SEEN BY A NATURALIST IN EDUCATION.

Niethammer (an almost forgotten name of the last century) says as regards the difference between the humanists and the philanthropinists this, if I remember the quotation rightly:—"1) Humanism aims at general culture; philanthropinism at utility. 2) Humanism seeks to exercise and strengthen the mind; philanthropinism, to fill it with useful knowledge. 3) Humanism demands but few subjects of study; philanthropinism, many. 4) Humanism exercises the mind with ideas; philanthropinism, with things. 5) Humanism deals with the true, the beautiful and the good, the elements of human culture; philanthropinism, with matter. 6) Humanism finds subjects of study in classical antiquity; philanthropinism, in the present. 7) Humanism regards learning as a serious employment; philanthropinism makes it, as far as possible, an amusement. 8) Humanism leads to thoroness in a few things; philanthropinism to superficiality in many. 9) Humanism *cultivates the memory*, the repository of knowledge; philanthropinism neglects it."

Dr. Hartwell has given us a glance back into the eighteenth century of educational thought. He has presented us with a specimen of the dying wail of the deposed idol, falsely named Humanism. The change of opinion may be thus stated. It is refreshing to look back a hundred years and note the changes. 1) The humanists, following the traditions of our race, the Aryans, worshiped the shades and shadows of their ancestors; the philanthropinists studied the demands of the times, evolved from the dark ages. 2) The humanists relied upon the grammar of dead languages as the sole means of exercising and strengthening the mind; the philanthropinists brought the child in contact with the real world. 3) The humanists exercised the mind with Greek roots; the philanthropinists, with roots of truth. 4) The humanists dealt with the facts of an ancient world; the philanthropinists discovered that God revealed himself thru matter as well as words. 6) Humanism finds its subjects in classical antiquity; philanthropinism, in the present (*necessities of progress*). 7) The humanists regarded learning as a serious employment, so serious that every Greek root was basted into the memory by the material used for straps, canes and ferules; the philanthropinists believed that true study, the discovery of God's

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NOTE:—A portrait of Basedow, the founder of philanthropinism, will be found on page 717 of this number.

eternal truth, is a joy, and its application a delight; the humanists believed in the child born in sin and iniquity; the philanthropinists believed in every child as a type of the Divine One born on the hills of Bethlehem. 8) The humanists confined study to dogmatic assertions and its resulting mental slavery; the purpose of the philanthropinists was human freedom. 9) The humanists cultivated verbal memory; the philanthropinists, reasoning power. Look down the century thru which this curious relic comes to us. What humanistic methods are considered practical to-day? The methods which all true and good teachers are struggling to abolish.

FRANCIS WAYLAND PARKER.

[This characteristic statement by the late Colonel Parker was handed to the Editor several years since to be used as part of an article on physical education. It was omitted at the time as it would have broken the unity of that article, and is here presented as the Colonel's view of the differences between humanism and philanthropinism.]

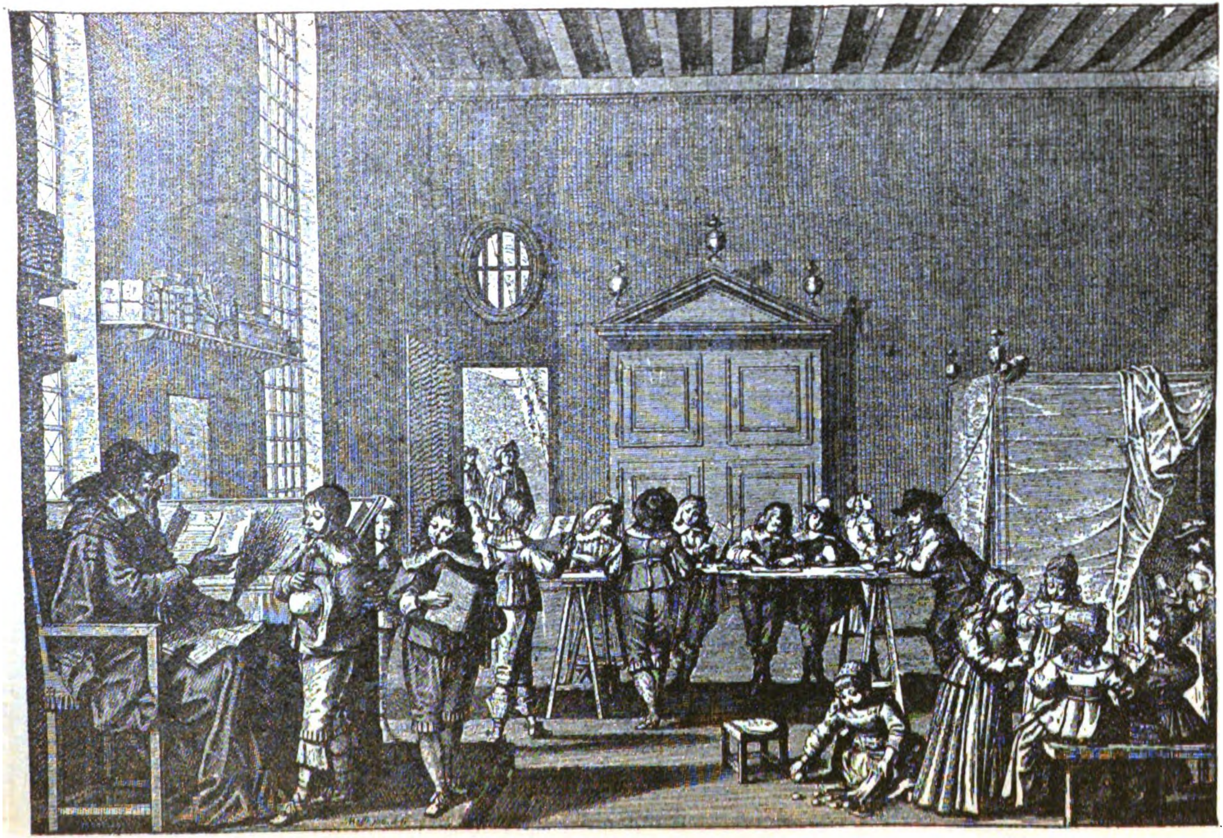
Cautions by an Eighteenth Century Woman Teacher.

ATTEND TO MEANING OF WORDS.

Children are well occupied in examining external objects, but they must also attend to words as well as things; one of the great difficulties in early instruction arises from the want of words; the pupil very often has acquired the necessary ideas, but they are not associated in his mind with the words which his tutor uses; these words are then to him mere sounds, which suggest no correspondent thoughts. If the children be obliged to pass over words without comprehending them in books, they will probably do the same in conversation, and the difficulty of teaching such pupils, and of understanding what they say, will be equally increased.

COMPARISON BEFORE JUDGMENT.

Until children have acquired some knowledge of effects, they cannot inquire into causes. Observation must precede reasoning, and, as judgment is nothing more than the perception of the result of comparison, we should never urge our pupils to judge until they have acquired some portion of experience. In proportion to the distinctness of their perceptions will be the accuracy of their memory, and, probably also, the precision of their judgment. The first exercises for the judgment should relate, as Rousseau recommends, to visible and tangible substances. Let them compare the size and shape of various objects; let them frequently try what they can lift; at what distance they can see objects; at what distance they can hear sounds; by these exercises they will learn to judge of distances and weight. — MARIA EDGEWORTH.



A Boys' School in the Seventeenth Century. Copperplate by Abraham de Bosse, 1602—1678.

CLASSIC ANTIQUITY.

Greek Mythology and Religion.

THE religion of the Greeks was made up of divers and often inconsistent elements of belief. In the fundamental features of Greek mythology we find reproduced many Aryan or Indo-European ideas. Thus in India and Persia were worshiped the powers and operations of nature, such as the Sun, the Dawn, Clouds, and Storms, and the very names used there are preserved, in their Greek form, in Greek mythology. This then was the earliest element.

But these natural powers were almost all transformed into persons by the strong instinct of the Greeks to explain all action in Nature by will and by passion. Thus the Greek gods became persons, of like passions with men, and in the several isolated communities into which the country was separated, the ingenuity of the priesthood, and the aspirations of the worshipers, determined the special worship of various gods, without much regard to the worship of their neighbors. So it came to pass, even in later days, that the favorite residence of Zeus, was Dodona or Olympia; of Hera, Samos or Argos; of Athene, Athens. We can find an analogy even amongst the Jews, who held that the temple of Jerusalem was the special dwelling-place of Jehovah, and on this they had (cf. St. John iv. 20) a bitter controversy with the Samaritans, who thought He ought to be worshiped on Mount Gerizim.

The genealogical poets who presently arose, composed poems like the Theogony of Hesiod, in which they brought all the local gods and worships into relation, inventing marriages and connections, often based on the old pictorial ideas about natural phenomena. These people made, so to speak, the Theology of the nation. Along with them, or immediately after them, came the strictly Epic poets who sang indeed the praises of men, and not of God, but who introduced the gods as a society like that of human princes, in order to explain their action upon human affairs. The poems of Homer and his school made the older genealogies familiar to the nation, and also induced a general belief in the human character of the gods, — a belief perpetuated all thru Greek history, and perfectly established in the vulgar mind, when sculpture and painting came to the aid of poetry, and represented the gods not only with human motives, but with human forms. Thus arose all those myths about the adventures of the gods, which shocked and pained serious thinkers on religion in Greece.

But while art maintained this worldly and even immoral view of the gods, the deeper and purer spirits sought and found in mysteries and in secret services, comfort and hope. We know that these mysteries, especially the Eleusinian, while in no way conflicting with the popular beliefs, yet taught the doctrines of future life and of retribution in such a way that those initiated had peace and joy in life, and a firm hope at the hour of death. With the decay of the nation, and the inroads of foreign influence, foreign deities and worships came in, but with these we are not concerned.

LOCAL CHARACTER.

Quite apart from the distinct classification of gods into heavenly, into earthly (such as the Nymphs), and into those of the nether world, there was much importance set on the place in which a god was worshiped. This arose sometimes from his having been originally a strictly local god, only worshiped in a special place, which even after the spread of his worship remained his peculiar and favorite sanctuary. Sometimes, as in the case of oracles, gloomy caves, and sulphurous vapors, which maddened the priest, were the cause of special places being selected, or else a stone which had fallen from heaven, or the point where lightning struck, marked out the sacred spot. In addition to these physical reasons, there were moral reasons connected with the sanctity of the citadel, the hearth, and the boundaries of property. Hence all these places were under the peculiar care and favor of special gods. So also when heroes or ancestors were worshiped, the tomb, or the scene of some mythical exploit was always selected as the place of worship.

ITS NATIONAL CHARACTER.

But while all these special local worships subsisted, still the religion of the Greeks was essentially national. The old poets had thoroly done the work of bringing system into their theology, and tho the gods had favorite abodes, their power was everywhere acknowledged, and even their omnipresence generally believed. The Greeks were in fact ready to identify even foreign gods with their own, and were quite free from that exclusiveness which is the essence of modern religion. When the oracle at Delphi took the lead in Greece, it determined and regulated when and where new services should be established, and what deceased heroes should be raised to the rank of heroes, and consequently worshiped. The great games and festivals of Greece were another bond which brought all special worships into harmony, for then all Greece met to honor the same god with the same rites. And lastly, religious offices and feasts were accepted as the universal means of marking seasons and years, at a time when no other means of chronology had been discovered. Thus Thucydides fixes a date not only by the annual magistrates at Athens, but by the forty-eighth year of the priesthood of Chrysis, at Argos. So the Olympic and Carneian victors were also cited. This marking of a year by several independent tests may be observed in our Gospels (St. Luke ii. 1).

THE OLYMPIC GODS.

There were generally twelve gods assumed as superior in power and privileges to the rest, but the lists vary, and no fixed principle prevailed. At the head of Olympus was *Zeus*, the father of gods and men, who was said to have dethroned Saturn and the Titans; the elder deities, perhaps, of conquered races which had disappeared before those of the Hellenes. His greatest temple and image (by Pheidias) was at Olympia, in Elis. His sister and wife was *Hera*, the goddess who presided over marriage, and was worshiped at Samos and Argos.

Next comes (in historical times) *Apollo*, whose worship was specially adopted by the Dorians from the Ionians, who had built him a famous temple, and made him a great feast at Delos. But it was as the Pythian Apollo of Delphi, in Phocis, that, with the Dorians, he took the lead of all other gods in Greece.

In Homer's day, *Poseidon*, god of the sea, and brother of Zeus, was more important. So was *Athene*, the special protectress of Attica and of Athens, who plays so leading a part in both Iliad and Odyssey. She was called daughter of Zeus, and was the goddess of arts and sciences.

Ares, the god of war, was peculiarly at home in Thrace. *Aphrodite*, whose worship was often confused with that of the Syrian and Phœnician Astarte, was the goddess of love. Her son *Eros* was the personification of Desire of all sorts.

Artemis was the goddess of the chase; but was also worshiped as a goddess of the underworld. She was the sister of Apollo, and both were said to be born at Delos, of Latona, another wife of Zeus.

Demeter was the goddess of corn and agriculture, worshiped in the mysteries of Eleusis and elsewhere, along with her daughter *Cora*, the wife of *Pluto*, brother of Zeus, and king of the dead, who was, therefore, rather a nether world deity.

Hermes was the messenger of the gods, but also the god of gain, and the escorter of the dead. He was worshiped at the crossings of streets, and boundary stones (with his image upon them) were called *Hermae*.

These examples will suffice. We may add the case of *Heracles*, who, having been long worshiped as a hero, was translated into an

Olympian deity. It is not easy to tell what gods were honored in the several temples from their external appearance, but as a general rule temples dedicated to gods had the statue looking eastward, and therefore the main door at the east front, while those of heroes faced westward.

EARTHLY DEITIES.

Tho the feeling for the picturesque in nature was almost strange to the Greeks, they made up for it by filling rivers, fountains, and woods with superhuman beings, who protected and loved external nature, and were worshiped there. These beings were not included among the Olympian gods. Such were *Pan*, the shepherd god, who was the cause of those terrors still called panics, the *nymphs* of wells, the *hamadryads* of trees, and the river gods. The old Greek conceived these gods as dancing in the glades, and playing about the fountains. Thus, too, the hour of midday was the time when Pan slept, and must not be wakened by the shepherd's pipe. Prayers are often addressed to these gods, especially the river gods, in both Iliad and Odyssey, and the old Greek who wandered alone in the woods was ever haunted by the fear that he might surprise and see some of these nymphs or goddesses in their retreat — a very dangerous accident, which was followed by sudden blindness, or even death.

CYTHONIAN DEITIES.

These were the gods of the nether world, and included not only Pluto and Persephone, and Hermes, as escorter of the dead, but also those heroes or ancestors who had altars and honors assigned to them. The worship of the dead was very common. It was universally believed that the position and happiness of the dead depended directly upon the honor paid him at his tomb by his relatives, and for this reason offerings at the tomb at stated seasons were among the most solemn duties of filial piety.

THE MINISTERS OF RELIGION.

Many services were performed by the master of the house at his hearth, or by some special clan, on whom the duty devolved from their ancestors. Such was the duty of the Eumolpidæ of Athens at the Eleusinian mysteries. Certain magistrates always performed certain duties. The Athenians, after abolishing royalty, kept up a king archon, for these religious reasons.

Besides these ministers, who arose from the patriarchal character of Greek society in early times, there were professional ministers, divided, as among the Hebrews, into priests and prophets. The priests were attached to the temples, where they performed sacrifices and instructed the worshipers how to act. The prophets were not so attached, but generally accompanied any important enterprise, in order to sacrifice, and tell the will of the gods by omens, dreams, and other soothsaying. The corporation of priests at Delphi combined both offices, and gave responses thru their prophetess at the oracle of the god. The social position of the seer or prophet varied from one of great importance to that of a strolling fortune-teller. The influence of all these priests and prophets was never, among the Greeks, combined into one great organized force, acting upon politics and molding society. The varieties of worship, the isolation of communities, and the absence of a caste or corporation feeling, were the principal causes of the absence, in Greece, of priestly power.

GENERAL CHARACTER OF RELIGIOUS WORSHIP.

Prayer is the leading feature of Greek religion. When the Greek raised his hands to the gods at their temple, he sought to conciliate them by sacrifices of oxen, goats, or other animals, as well as with incense, and thought them bound in fairness to hear him. The animals were at times wholly burnt (holocausts), at others partly, and the remainder used for a religious feast. There were also curses and imprecations solemnly invoked by the worshiper, either on his enemy, or on himself, if he failed to perform some solemn duty. Besides this, there was the habit of inquiring of the gods in cases of doubt and difficulty — a thing done by going with an offering to an oracle, and obtaining an answer thru the priest. There can be no doubt that the oracles were a great engine of moral good in Greece. The last religious duty to be here specified are the festivals and games already described.

As it may be said fairly that every religion is deeper and purer than its ritual, so we must not judge the piety of the Greeks either by the pictures of their art and literature, or by the superstitions of their sacrifices and oracles. There is indirect evidence in their literature that the common people usually spoke of the deity as one, that they fully believed in the rule of a Divine Providence, according to justice and mercy, and that they regarded not only ritual but devotion to be their duty towards the gods. Not merely physical advantages, such as health, beauty, and fertility, but all the foundation of their liberty and their national greatness, were commonly ascribed to the Divine favor. The greatest monuments of their poetry, their sculpture, and their architecture were worked out with a devout feeling for the honor of the gods, tho to us they have become interesting merely as pure works of art.

University of Dublin. J. P. MAHAFFY.

TEACHERS' EXAMINATIONS.

The questions given in this department have been selected from papers used at recent teachers' examinations in several states. The answers are necessarily suggestive rather than final, tho their accuracy can be depended upon as far as they go.

New York State Uniform Examination Questions.

AMERICAN HISTORY.

1 *a*) By whom was Florida discovered? *b*) Mention two Spaniards who afterwards attempted its conquest.

2 *a*) Who were the Puritans? *b*) Why did they come to America? *c*) What colony did they establish?

3 Mention two instances where George Washington rendered efficient service during the inter-colonial wars.

4 *a*) Describe the treasonable plot of Benedict Arnold. *b*) How was the plot detected?

5 Why did the war of 1812 bring about a desire for a protective tariff.

6 Give a brief account of any two of the following: the Barbary war; the invention of the cotton gin and its results; the Alien and Sedition laws; the causes of the war of 1812.

7 What addition was made to the territory of the United States in each of the following years: 1803, 1819, 1845, 1848, 1853, 1867, 1898? (Answer any five.)

8 Why was the time when Ericsson's monitor was placed in service most opportune?

9 *a*) How many invasions of the North were attempted by Gen. Lee? *b*) By what battle was each of these attempts checked?

10 Mention three financial measures advocated by Hamilton for raising a revenue and strengthening the credit of the nation.

ANSWERS.

1 *a*) By Ponce de Leon. *b*) De Narvaez; De Soto.

2 *a*) People in England who wished the Established Church purified of certain forms and ceremonies with which they were dissatisfied. *b*) To be somewhere where they might worship God as they saw fit. *c*) The Massachusetts Bay Colony.

3 He served as a messenger to the French governor, and he rendered valuable service in Braddock's campaign against Fort Du Quesne.

4 *a*) Arnold tried to surrender West Point to the British. *b*) Thru the capture of the British major, John André, upon whose person were found papers revealing the plot.

5. The war had stimulated American manufactures. A protective tariff would assure their profitable continuance.

6. *a*) The war against the Barbary states arose from President Jefferson's refusing to pay tribute to piratical Barbary powers. War was declared in 1803. Tripoli was bombarded and the war continued for two years. *b*) The cotton gin was invented by Eli Whitney in 1792. It cheapened the preparation of cotton for the market and added to the value of slave labor. *c*) The Alien and Sedition laws were passed by Congress in 1798. They made it more difficult for the foreign-born men to become American citizens, and they authorized the president of the United States to exclude aliens in accordance with his judgment. *d*) Dissatisfaction with regard to the American trade with foreign nations; impressment of seamen, the attitude of British ministry toward our government.

7 1803, Louisiana Territory; 1819, Florida; 1845, Texas; 1848, California

and the country east to the Rio Grande; 1853, the Gadsden purchase, which included Arizona and New Mexico; 1867, Alaska; 1898, Porto Rico.

8 The "Merrimac" had sunk the "Cumberland" and destroyed the "Congress." As a result there was a panic all over the country. When the "Merrimac" attacked the "Minnesota," the "Monitor" came to the rescue, and drove the "Merrimac" back to Norfolk. The "cheese-box" revolutionized the method of naval warfare.

9 *a*) Two. *b*) Antietam and Gettysburg.

10. The establishment of a national bank, the establishment of a tariff, and the payment of the national debt.

ARITHMETIC.

1 A number is divided by 44 using first the factor 11 with a remainder of 9, then the factor 4 with a remainder of 3; the quotient being 139. Find the number.

(2. Simplify $\dfrac{5\frac{1}{2} - 3\frac{3}{4}}{\frac{2}{5} + \dfrac{15}{3\frac{1}{2} + 2\frac{3}{4}}}$ showing the work.

3. A farmer delivered four loads of hay weighing in the gross 4777, 3860, 3654, 3606 lbs., respectively. The weight of his sleigh and hay rack is 1380 lbs.; how much is due him at $11.75 per ton for his hay?

4 At a certain election there were 327,140 votes cast for three candidates, the successful candidate received a majority of 28 over the other two, whose votes were in the ratio of 1 to 3. How many votes were cast for each candidate?

5 Water in freezing expands one-tenth. If one cubic foot of water weighs 1000 ounces what will one cubic foot of ice weigh?

6 The volume of a room is 2295 cubic feet, the height 9 feet, and the width 15 feet. *a*) Find the length. *b*) Which way of the room should carpet one yard wide be laid to prevent waste? *c*) What is saved over laying it the other way, carpet costing 90 cents a yard?

7 Find the proceeds of a 90 day note, dated January 31, 1904, for $2,040 and discounted February 25, 1904, at 6 per cent.

8 If 20 per cent. is lost in selling a house for $1,200, for what should it have been sold to gain 20 per cent.?

9. When New York Central $3\frac{1}{2}$ per cent. bonds are bought for $90\frac{5}{8}$, brokerage $\frac{1}{8}$, what per cent. is realized on the investment?

10 The entire surface of a cubic block is 384 square feet. How many one-foot cubes can be cut from the block, allowing nothing for waste?

ANSWERS.

1 6158.

2 (*a*) $5\frac{1}{2}-3\frac{3}{4}=\frac{22}{4}-\frac{15}{4}=\frac{7}{4}$

(*b*) $3\frac{1}{2}+2\frac{3}{4}=\frac{14}{4}+\frac{11}{4}=\frac{25}{4}$

(*c*) $\dfrac{15}{\frac{25}{4}}=\frac{15}{1}\times\frac{4}{25}=\frac{12}{5}$

(*d*) $\frac{2}{5}+\frac{12}{5}=\frac{14}{5}$

(*e*) $\dfrac{\frac{7}{4}}{\frac{14}{5}}=\frac{7}{4}\times\frac{5}{14}=\frac{5}{8}$ ans.

3 $60.98 +.

4 Successful candidate, 163,584; least successful, 40,889; the other, 163,584.

5 1331 ounces.

6 *a*) 17 feet. *b*) Lengthwise. *c*) $1.50.

7 $2,017.90.

8 $1,800.

9 3.86 + per cent.

10 512.

CURRENT TOPICS.

1 Write briefly in regard to any one of the following: Parsifal, radium, the Northern Securities case.

2 State why each of the following is of current interest in connection with the Russian-Japanese war: Seoul, Yalu river, Port Arthur, Chemulpo, Vladivostock. (Answer four.)

3 State in general terms the provisions of the new educational law known as the Unification Act.

4 *a*) Who has been chosen commissioner of education of this state? *b*) Write on the important educational services which he has rendered.

5 Write briefly on the public services of Marcus A. Hanna, or William C. Whitney.

6 State the important provisions of the treaty with Panama, recently ratified by the United States enate.

7 State what has recently brought Mormonism into public notice.

8 State an indirect benefit resulting from the Chicago theater fire, or name two other cities that have recently suffered severe losses from fire.

9 What decision has recently been rendered by The Hague Tribunal?

10 Name an important service rendered by each of the following: Gen. John B. Gordon, Gen. James Longstreet, Sir Edwin Arnold, William R. Grace, Admiral Alexieff, Marquis Ito, Adna R. Chaffee, John G. Walker, Parke Godwin, Hermann E. Von Holst. (Answer five.)

ANSWERS.

1 *a*) Wagner's Parsifal was performed, for the first time since it was written, outside of Beirut, in the Metropolitan Opera House, New York city, last winter and spring. *b*) Radium is a substance recently discovered by a French chemist. Its radio activity is very remarkable. *c*) The merger of the Northern Pacific and Great Northern railways has been declared illegal by the courts.

2 Seoul is the capital of Corea. The Yalu river has been one of the battle grounds of the war. Port Arthur is the main scene of the conflict. Vladivostock is a prominent city in Russian territory where troops have been gathered.

3 Local question.

4 Dr. Andrew S. Draper. His unanimous call to the New York Commissionership was a recognition of the great services he had already rendered the schools of the state during his term of office as state superintendent of public instruction.

5 Marcus A. Hanna, who died in February, was one of the most prominent leaders in the Republican party. He was senator from Ohio and had been mentioned as a possible nominee for the presidency of the United States. Mr. William C. Whitney, who also died in February, was a well-known New York financier. He served as secretary of the navy under Grover Cleveland.

6 The United States is granted a strip of land across the isthmus extending five miles each side the center of the canal. Colon and Panama are not included in the grant.

7 The question whether Smoot, the senator from Utah, should be allowed to keep his seat in the United States senate.

8 Theaters and other public buildings in all parts of the country have been inspected, to be sure that sufficient precautions against fire, and provisions for safety in case of fire, were taken. Baltimore, Rochester, and Toronto have suffered severe fire losses recently.

9 That preferential privileges of nearly a third of the customs duties of Venezuela be given to Germany, Great Britain, and Italy.

10 John B. Gordon was a brilliant soldier and general in the Confederate army. He did great service during his seven years as U. S. senator from Georgia. Gen. James Longstreet was considered the hardest fighter in the

Confederate service. He was appinted minister to Turkey by President Hayes. Sir Edwin Arnold was author of "The Light of Asia" and other poems. William R. Grace, who died recently, was at one time mayor of New York city. He was a noted philanthropist. Admiral Alexieff was viceroy of Russia in the East. Marquis Ito recently visited Corea in the interests of Japan. Adna R. Chaffee has been placed in command of the United States army. John G. Walker is a member of the Panama Canal Commission. Parke Godwin was editor of the New York *Evening Post.* Hermann E. Von Holst, who recently died, was author of the "Constitution and Political History of the United States," and other works of similar character.

ENGLISH COMPOSITION.

1 What principle should govern in framing the paragraph?

2 Make a single sentence of the following: I began to think seriously of matrimony. I chose my wife as she did her wedding gown. She did not choose her dress for a fine glossy surface. She chose it for such qualities as would wear well.

3-4 Complete the following, giving an account of a violent thunderstorm and its effect upon the school children: It was a murky afternoon. The children sat about in a hundred listless postures. There seemed no life in anyone until——

5-6 Introduce the following elements into a paragraph descriptive of "a snug, happy, and well conditioned farm:" House in a sheltered fertile nook, vast barn, cooing pigeons, sleek unwieldy porkers, regiments of turkeys, squadrons of ducks, fat meadow lands, rich fields, orchards burdened with ruddy fruit.

7 Recast the following so as to give it greater strength: The farmers' sons thought themselves happy if they could open a gate for the good knight as he passed by, which he generally requited with a nod, and a smile, and a kind inquiry after their fathers or uncles.

8 Show how the following words differ in meaning: old, ancient, antique, antiquated, superannuated.

9-10 Write a composition upon any one of the following topics: The war between Japan and Russia. Trolley roads. Fireproof buildings. Unification.

ANSWERS.

1 The uniting in a single paragraph the sentences that together form one complete, or connected thought.

2 Beginning to think seriously of matrimony I chose my wife as she chose her wedding gown, not for a fine glossy surface, but for such qualities as would wear well.

3-4 Personal answer required.

5-6 The Dutchman was proprietor of a snug, happy, and well-conditioned farm. The house stood in a sheltered fertile nook, surrounded by fat meadow lands, rich fields and orchards burdened with ruddy fruit. Near by was the vast barn which furnished shelter to cooing pigeons, sleek unwieldy porkers, regiments of turkeys and squadrons of ducks.

7 The farmers' sons thought themselves happy, could they but open a gate for the good knight when he passed by, and be requited by a nod, a smile, and a kind inquiry after their fathers or uncles.

8 See dictionary.

9-10 Personal answer required.

GRAMMAR.

1 When I shall be found, sir, in my place here in the Senate, or elsewhere,
2 to sneer at public merit because it happens to spring up beyond the
3 little limits of my own State and neighborhood; when I refuse, for any
4 such cause, or for any cause, the homage due to American talent, to

5 elevated patriotism, to sincere devotion to liberty and the country; or
6 if I see an uncommon endowment of heaven — if I see extraordinary
7 capacity and virtue — in any son of the South, and if, moved by local
8 prejudice or gangrened by State jealousy, I get up here to abate the
9 tithe of a hair from his just character and just fame; may my tongue
10 cleave to the roof of my mouth! WEBSTER.

The first six questions refer to the above selection.

1 Select three clauses that modify *may cleave* (lines 9 and 10).

2 Give *a*) two modifiers of *to sneer* (line 2); *b*) three modifiers of *refuse* (line 3).

3 Classify and give syntax of *a*) *moved* (line 7); *b*) *to abate* (line 8).

4 Give syntax of *a*) *sir* (line 1); *b*) *country* (line 5); *c*) *just* (line 9).

5 Parse *a*) *my* (line 1); *b*) *sincere* (line 5).

6 *a*) Select a verb in the passive voice. *b*) How is the passive voice formed?

7 Give the synopsis, first person singular of *see*, in all the tenses of the indicative mode, active voice.

8 Distinguish between an appositive, and an attribute (predicate noun). Give example of each.

9 Write a sentence in which the object is *a*) a particle; *b*) a clause.

10 Give the syntax of the italicised words in the following sentence: All of the *a*) *ships b*) *having arrived*, the admiral attacked the fort.

ANSWERS.

1 *When I shall be found, when I refuse, if I get up.*

2 *a*) *At public merit, because it happens*; *b*) *for any such cause, for any cause, homage.*

3 *a*) Participle, nominative agreeing with *I*; *b*) infinitive, modifying *get.*

4 *a*) Nominative, case of address; *b*) object of the preposition *to* understood; *c*) qualifying adjective modifying *character* and *fame.*

5 *a*) Pronoun, first person, singular number, masculine gender, possessive case, modifying *place; b*) adjective modifying *devotion.*

6 *a*) *Shall be found.* *b*) The passive voice is formed by adding the various forms of the verb *be* to the past participle.

7 I see, I saw, I shall see, I have seen, I had seen, I shall have seen.

8 A noun is an appositive when it is connected directly with another noun to explain it; it is an attribute when it is connected with a noun by means of a verb, to explain it, e. g., Edward, King of England — appositive; Edward is King of England, attribute.

9 I teach reading. I think she can read.

10 The words *ships having arrived*, together form a nominative absolute, denoting time.

GEOGRAPHY.

1 *a*) Which zones never receive vertical rays from the sun? Why? *b*) What determines the width of the zones?

2 Name the six great land divisions of the earth in the order of *a*) size, *b*) population.

3 Compare the three seacoasts of the United States with reference to *a*) length, *b*) harbors. *c*) Locate two important harbors on each coast.

4 Select five of the following English towns and state why each is particularly noted: Birmingham, Leeds, Sheffield, Liverpool, Oxford, Manchester, Portsmouth.

5 *a*) Where is the Japan Empire? *b*) Describe its surface. *c*) Name its capital city, and principal seaport.

6 Compare Brazil with the United States, with respect to *a*) *area*, *b*) fitness for growing food products. *c*) Name two leading products of Brazil imported in large quantities into the United States.

7 *a*) Compare African with American rivers with respect to furnishing

easy communication with the interior of the continents. *b*) Give reasons for your answer.

8 *a*) Distinguish between West Indies and East Indies. *b*) Select from each group three large islands.

9 Locate four important cities of Canada and state for what each is particularly noted.

10 Locate in the state of New York *a*) four leading colleges, *b*) two State prisons, *c*) two State charitable institutions; *d*) two Indian reservations.

ANSWERS.

1 The arctic and temperate zones. Because the axis of the earth is inclined 23½ degrees from perpendicular. *b*) The amount of the inclination of the earth's axis.

2 Asia, Africa, North America, South America, Europe, Oceanica. *b*) Asia, Europe, North America, South America, Africa, Oceanica.

3 *a*) As to length — 1 Pacific, 2 Atlantic, 3 Gulf of Mexico. *b*) As to harbors — 1 Atlantic, 2 Pacific, 3 Gulf of Mexico. *c*) Atlantic — Boston, New York; Pacific — Tacoma, San Francisco; Gulf of Mexico — New Orleans, Galveston.

4 Birmingham has extensive iron and steel factories, Leeds manufactures woolens, Sheffield, cutlery. Liverpool is noted for its commerce, Oxford for its university, Manchester for its cotton manufactures. Portsmouth is the principal naval station and strongest fortress in England.

5 *a*) It is a series of islands northeast of the coast of Asia. It extends from 24 deg. to 50 deg. 40 min. north latitude, and from 124 deg. to 156 deg. 38 min. east longitude. *b*) The country is hilly, and there are several volcanoes as well as other mountains. *c*) Tokio; Yokohama.

6 *a*) Brazil is smaller than the United States. *b*) The vegetation of Brazil is of tropical luxuriance. The principal products are cotton, sugar, india rubber, and tobacco. The soil is not well adapted to many products that are readily raised in this country. *c*) Coffee and rubber.

7 *a*) The American rivers are more generally navigable than those of Africa. *b*) The flow of the rivers on the latter continent is broken by cataracts and falls.

8 *a*) The West Indies are a group of islands southeast of the United States. The East Indies include a group of islands southeast of Asia, also Indo-China and Eastern India. *b*) West Indies — Cuba, Porto Rico, Haiti; East Indies — Borneo, Sumatra, Java.

9 Montreal is the commercial center of the country. Ottawa is the capital. Quebec is famous for its fortress. Halifax has a magnificent harbor and has many soldiers stationed there.

10 Local question.

PHYSIOLOGY AND HYGIENE.

1 Locate *a*) the cardiac, *b*) the pylorus.

2 In what way does clothing keep the body warm?

3 Of what service to the eye are *a*) the eyebrows, *b*) the eyelashes, *c*) the eyelids, *d*) the lachrymal glands?

4 Name five things that interfere with digestion.

5 Locate and describe the diaphragm and show how it aids in the process of breathing.

6 What is the effect of alcohol upon *a*) fermentation and decay, *b*) the tissues of plants and animals?

7 What is *a*) the pericardium, *b*) the serum, *c*) the endocardium?

8 Describe briefly the alimentary canal.

9 *a*) Name the bones forming the pelvis. *b*) What is the function of the pelvis?

10 What is *a*) a ligament, *b*) a sprain, *c*) a dislocation?

ANSWERS.

1 *a*) The cardiac orifice is where the aesophagus unites with the stomach. *b*) The pylorus is where the small intestine unites with the stomach.

2 By holding the heat of the body in.

3 *a*) The eyebrows are perhaps some protection to the eyes. *b*) The eyelashes prevent dust and other minute substances from entering the eyes. *c*) The eyelids shield the eyes from too strong light, they spread the tears and they protect the eyes from injury. *d*) The tear glands wash out foreign substances from the eyes, and they keep the eyes moist.

4 Unhealthful food, cold drinks taken with the food, excessive weariness, disease, violent exercise shortly after eating, etc.

5 The diaphragm is a thin layer of muscular tissue, shaped like an inverted bowl, and separating the thoracic and abdominal cavities.

6 *a*) Alcohol checks fermentation and decay. *b*) It hardens animal tissue.

7 *a*) The membrane surrounding the heart. *b*) The watery fluid that separates from the coagulum of the blood. *c*) The membrane lining the inside of the heart.

8 The alimentary canal includes the whole digestive system. It starts with the aesophagus, extends thru the stomach and the intestines. At various sections digestive juices are secreted.

9 *a*) The illium, pubis and ischium. *b*) It supports the abdominal organs, bears the weight of the upper part of the body when in a sitting position, and it sends the weight to the legs when the person stands.

SPELLING.

1 burlesque
2 separate
3 prejudice
4 tenant
5 imperative
6 notable
7 bigamy
8 privilege
9 incredible
10 concession
11 betrayal
12 malicious
13 collapse
14 preceding
15 reluctant
16 manageable
17 adequate
18 anomalous
19 populace
20 colossal
21 immense
22 millionaire
23 luncheon
24 guidance
25 vengeance
26 controversy
27 jeopardize
28 atrocious
29 malady
30 assailant
31 admissable
32 peril
33 accuracy
34 illogical
35 hideous
36 acceptance
37 conquer
38 inevitable
39 cancellation
40 spontaneous
41 scandal
42 tunnel
43 planning
44 innocence
45 arrogance
46 vagrant
47 referred
48 besiege
49 mileage
50 artisan

Altho especial care has been exercised to have the answers to examination questions accurate and carefully worked out, thru typographical errors several mistakes have crept in. In arithmetic this has been the case in two sets of answers particularly. Had not the manuscript been destroyed the arithmetic questions given in the March number, with the correct answers would have been republished this month.

Readers need feel no hesitation in depending upon the accuracy of the answers to the questions as a general rule. They are worked out with great care, recognized authorities being consulted for the verification of every point coming under discussion.

The May number of EDUCATIONAL FOUNDATIONS touches "high-water mark." It can scarcely be surpassed. The stimulating influence of such a magazine on the life and work of the live teacher can hardly be over-estimated.
SUPT. T. E. HOLLINGSWORTH.
Washington, Ga.

EDITORIAL DEPARTMENT

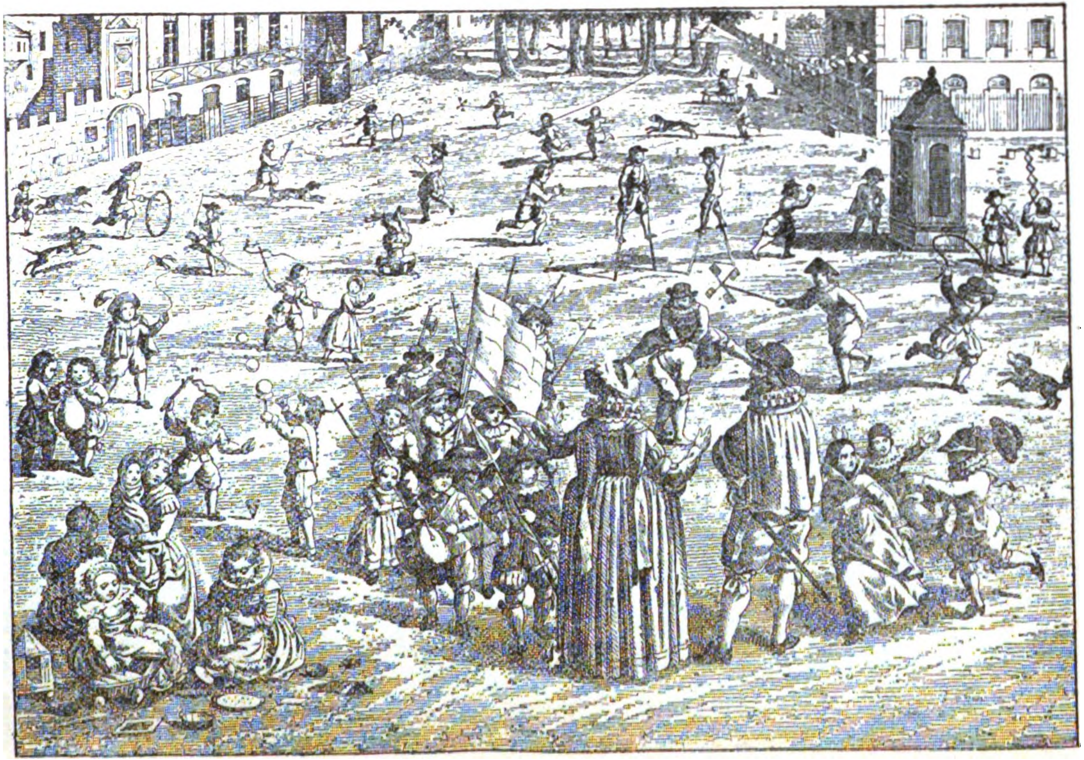
Common School Extension.

IN New York city there has developed under the wise leadership and unswerving devotion of Dr. Henry Leipziger a system of adult education which may well serve as a pattern to the cities of the world. Incidentally it furnishes another evidence of the wonderful power which one man's unselfish persistency in a noble endeavor may acquire in our democratic republic. The free lecture courses carried on under the auspices of the New York city board of education are essentially the fruit of Dr. Leipziger's faith in his ideal. From very modest beginnings some fifteen years since there has grown up a comprehensive organization of university extension; a veritable people's university, under municipal control and forming an intrinsic part of the machinery of public instruction.

Superficially viewed the free lecture system may appear to be merely a device for spreading useful information concerning a variety of respectable subjects. Some short-sighted friends seem to think its purposes exhaustively stated when they pronounce it a worthy means for stimulating and in a measure satisfying the scientific and speculative curiousness of people who would otherwise be unable to accumulate intellectual realty, chattel, and embellishments.

But there is more in this movement than appears on the surface. Where, before this great work was started under way, were the many thousands who nightly crowd the lecture halls? What was the range of their interests then, what is it now? One who will take the time to ponder upon these questions will catch a glimpse of the deeper significance of the people's university idea. Close contact with the people attending the lectures and sympathetic observation of the effect upon their lives must convince the most skeptical that he is face to face with a great civic, patriotic, moral movement whose cumulative value to humanity is beyond human ken to estimate.

Here, as in every department of educational endeavor, the spirit animating the corps of workers is everything. In the hands of a lip-serving formalist the organization built up by Dr. Leipziger's enthusiastic loyalty to his vision of a sublime consummation would soon crumble to dry dust. Many towns have copied the



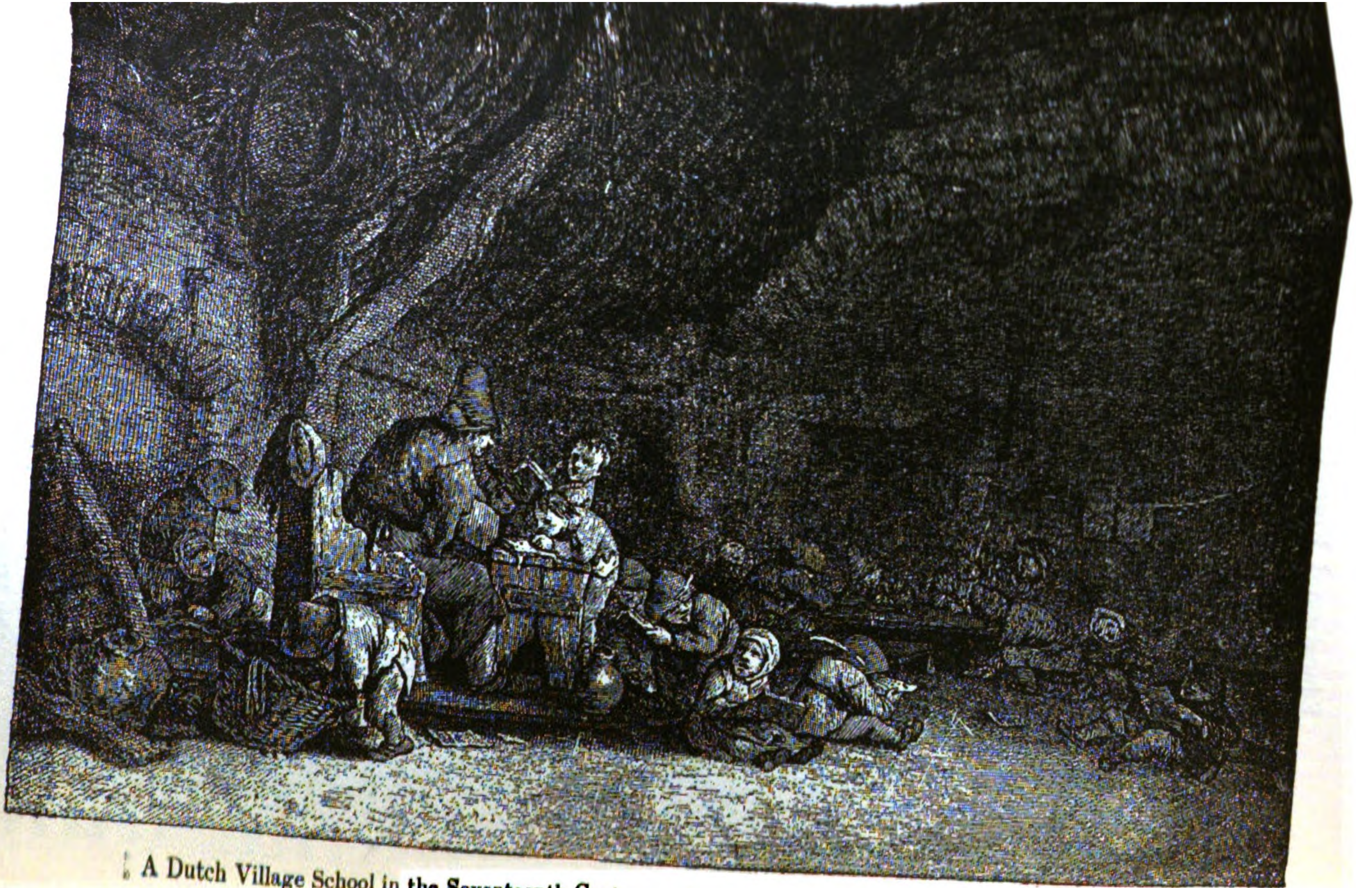
Children's Playground. From an old engraving of the early part of the Eighteenth Century.

mechanism of the system only to lose faith in themselves. "The people here cannot be interested;" "it may work in New York, but in our town it never will;" "we have done exactly as you do in your city, we have even selected our lecturers from Dr. Leipziger's list, but we could not make it go"——and so the list of reported failures might be continued. It is the spirit that quickeneth. Wherever a wise, imaginative, fervent educational leader has been permitted to direct the inauguration of this university extension work, there success has been achieved and the life of the community made richer and nobler.

How well Dr. Leipziger has succeeded in transmitting to his co-workers the ideals stirring within him was brought out unmistakably at the recent fourteenth annual reunion of the free lecture corps of New York city. There were present on this occasion nearly three hundred people, about three-fourths of whom were men. Among so large a number it is but natural that one should find an occasional camp-follower for whom the paltry financial compensation has chief attraction or one who afflicted with *mania loquendi* is reveling in his opportunities. But the veriest cynic could not have denied that the corps as a whole is animated by a spirit of solidarity in the promotion of a great cause than which there is none greater in the whole range of educational endeavor. Neither rains, nor sneaping winter winds, nor darksome and desolate places could deter these lecturers from the pursuit of their labor of love.

Mr. John Lloyd Thomas, who presided as toastmaster at the reunion, is an example of the high type of humanitarian enthusiast identified with the free lecture system. Highly respected in the community, occupying positions of trust and responsibility, his time precious, with social attractions on every hand, he yet has for these many years faithfully continued in the work under Dr. Leipziger's generalship. When he described how waste places in "this metropolitan wilderness" had been made to bloom as a rose because of the blessings spread abroad, one could not but get a clearer vision of the motives pressing onward the educational host under the banner of the people's university.

Work such as is done by the free lecture corps is in a quiet way doing more for the uplift of the people than the noisy furor of the myrmidons of repressionism will ever accomplish. By patiently cultivating the best interests that can be awakened in the masses of the people, and trusting that these will in time supersede ignoble instincts, the people's university has become a most effectual ethical instrument. He who diligently searches may here find the clue to the true means by which education is advanced.



A Dutch Village School in the Seventeenth Century. Copperplate by Adrian Van Ostade, 1610-1685.

1904-1905.

The present number closes volume XV of Educational Foundations. The plans for the new year beginning in September are not quite ready for publication. Every department of the past year will be continued with the exception of the history of art. It is probable that general history will be substituted. In the history of education special attention will be given to Greece and Greek educators, more particularly Socrates, Plato, and Aristotle. A department of "Educational Research" will be an important feature. An outline of the program for 1904-5 will be ready some time in June and may be obtained on application to the publishers, E. L. Kellogg & Company, 61 East 9th St., New York.

Co-operation: Eighteenth Century parents teaching their children spelling, reading, and writing. From an engraving by a Munich artist about 1780.

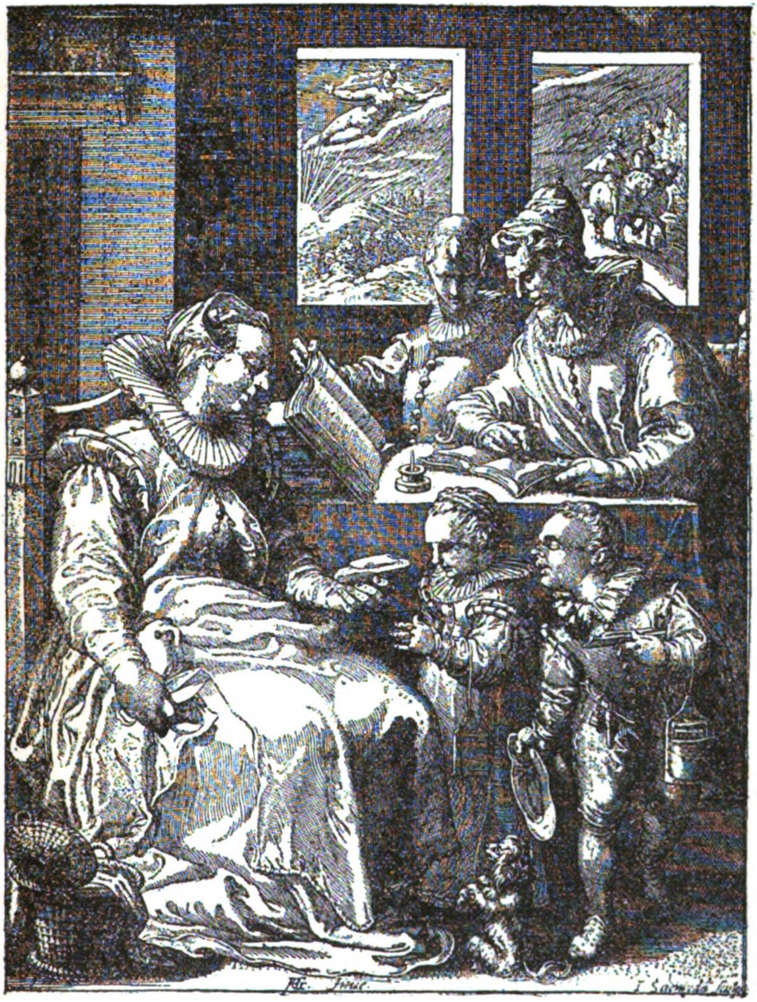
America's Faith in Education.

THE report of the Mosely Educational Commission is very emphatic in its praises of the intense honesty of our national belief in the universal education of all the people. The fruit of the practical phases of this belief is found in the growing importance of American industry and commerce in the world's affairs. The commission agrees that "altho in the past the belief in education has been the effect rather than the cause of American prosperity, during the last quarter of a century education has had a powerful and far-reaching influence; and it cannot be doubted that in the future it will become more and more the cause of industrial and commercial progress and of national well-being." While all this is true, it would seem that the commission as a whole has missed one most important point in not sufficiently recognizing the expression of American ideals in the *common* schools.

The common school idea is a distinct and uniquely characteristic American contribution to civilization. Originally the child of national aspirations this institution is in its development becoming more and more a great culture force for expanding the social and industrial usefulness of every individual unit of our democracy to its highest possible degree. The philosophic idea at the foundation of it furnishes the key to whatever our national life reveals of educational enthusiasm and pre-eminence in industry and commerce.

America is a land of practical action rather than of theorization. American philosophy is not to be found in books, it is incarnated in forms of life and is visible only to the seeing eye — in institutions and the historic trend of popular movements. To understand it one must live it. Aristocratic notions, however mild their symptoms, disqualify a foreigner, whether he be native or alien by birth, from forming an accurate estimate of its effects in lines of human endeavor. The common school is the purest expression of American aspirations. The practical realization of its logical development reveals the irresistible force of the underlying popular ideal.

The common school thought is yet in its infancy, especially in the East. Out West its vigorous development is revealing more clearly its trend in practical phases. But East and West and North and South, everywhere the national hopes embodied in that institution are making themselves felt with steadily growing intensity. Visions of what the common school might, and some day will be,



Mother supplying her children with luncheon on their going to school.
Copperplate by Jan Saenredam, Sixteenth to Seventeenth Century.

are enlisting the best thought in the country in the working out of its possibilities. If Europe could see the true inwardness of the thought at the foundation of this institution, it would understand our faith and would recognize the secret of our industrial progress.

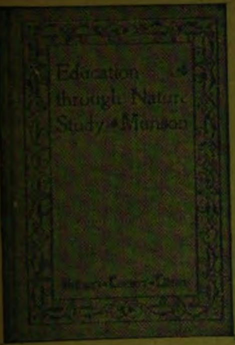
There are no common schools in Great Britain. There they have schools *for* the people, but no schools *of* the people. The "masses" have schools graciously provided for their children. A charitable attitude has established these schools, tutelary care maintains them. The purpose is negative rather than constructive. The country must be protected from ignorance. Illiteracy is considered an evil that must be stamped out. Crime and vice must be suppressed. The children of the masses must be taught to become self-supporting lest they be poor and steal. The tax-supported elementary schools, like the prisons, are supported by Great Britain chiefly as agencies for self-protection.

With us in America the common schools are by the people looked upon as the most profitable investment of their taxes. The father who sends his child to school is not made to feel that the State is very kind to him in supplying educational opportunities. On the contrary the people, and that means Americans without class distinction, have learned to recognize that the State's resources are developed by education, and that every educated individual is an important addition to the wealth of the State. The schools are given scope to develop the capacities of the individual pupils to the fullest possible extent. The better educated a man, the greater service he will render the State. This is the American creed. Accordingly a father who sends a child to school is contributing to the wealth of the State. He who has no child to send has learned to pay his share of the school taxes without grumbling and without any particular feeling of being virtuous in doing so. In sooth the people are awaking to the notion that he ought really to be taxed more heavily, not having a child to present to the State.

The common schools are the hope of America in a unique sense. The full significance of this hope is difficult to comprehend, except for one who is an American at heart.

The Schoolmaster's Prayer.

Lord, deliver the laddies before Thee from lying, cheating, cowardice, and laziness which are as the devil. Be pleased to put common sense in their hearts, and give them grace to be honest men all the days of their life.—IAN MACLAREN.



Latest Books on Nature

Education Through Nature

The author, Prof. John P. Munson, Ph. D., head of the department of biology in the State Normal school of Washington, undertakes from the standpoint of the sincere student to give a scientific character to nature study. This is a most timely book written in a most practical and scholarly way. Through nature study the author aims to increase the pedagogical skill and power of the teacher, and the field covered includes chapters on "General Methods," "Suggestions and Course of Study." "Life: Its Forms and Its Manifestations," "Theories of Development," etc. Cloth, 12mo, $1.25. Postage, 10c.

Kellogg's How to Teach Nature Study

The best short book in practical Nature Study, written in the author's most helpful style. He explains in a very simple and logical way the general methods that may be employed to arouse the child's interest in Nature. This is followed by a chapter on special methods, with appropriate suggestions for each school month. A series of illustrations of charts from "How to Make Charts" is a feature of this work, thus supplying the teacher with valuable material for explaining the shape, size, and arrangement of flowers and leaves. Cloth. Price, 25c., postpaid.

Payne's 100 Lessons in Nature

A standard and helpful book by the eminent school scientist, Frank O. Payne. It outlines an attractive series of lessons, which are illustrated by many model lessons used successfully in the author's own school. Cloth, 88c., net, postpaid.

Tinsley's Artistic and Practical Basketry

(just out) is the only practical book for teachers and schools. Exquisitely illustrated and printed. $1.00, net, postpaid.

Nature Books by Mr. Payne and others

How to Teach About the Trees. Cloth	25c.
How to Teach About the Birds. Cloth	25c.
How to Teach Minerals. Cloth	25c.
How to Teach About Bugs, Beetles, etc. Cloth	25c.
How to Teach About Butterflies and Bees. Cloth	25c.
How to Teach About Aquatic Life. Cloth.	25c.
How to Teach Botany (Kellogg). Cloth	25c.
Sherman's Floral Record. Paper	15c.

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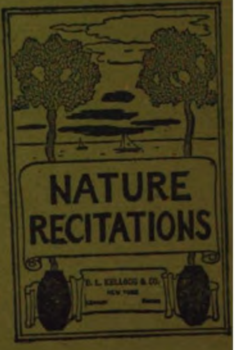

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